Clinical Lectures
ON
CASES ILLUSTRATING RENAL SURGERY.

Delivered at University College Hospital,

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LECTURE I.

CASE 1.—*Excision of the Kidney for Ruptured Ureter and Urinary Abscess, in a Child aged three years and eight months; Recovery.*

GENTLEMEN,—Several cases illustrating points of interest in renal surgery have lately come under my care, which I have thought might be profitably brought to your notice in the form of a clinical lecture. I have been reminded of these quite recently by a case in which, as you will remember, I removed the right kidney from a child three weeks ago—a case almost unique in itself, and not only very instructive from the facts observed in connexion with its clinical features, but also suggestive of many points to be observed in the future, both clinical and physiological. It is proposed now to bring this case under your notice somewhat in detail, and then, if time permit, to give a sketch of three other cases in which I also operated on the kidney, drawing whatever lessons may be learned from each. The notes of these latter have been written and lying by me for some months past, and I shall have little more to do than read them in abstract and make a few brief comments.

The first case is that of a child, A. W——, aged three years and eight months, who was run over by a hansom cab on Aug. 13th, 1884, at 2.45 P.M., and was immediately brought to the hospital. When admitted the notes state that there was extreme bruising of the left side, and the mark of a wheel having passed across as far as the anterior iliac spine. The right side is no doubt meant, for when I saw the case next day the wheel-mark was plainly on the right, as were all other evidences of mischief. There was also tenderness over the kidney. There was no loss of power or pain in the lower limbs. The abdomen, however, was very tender all over and somewhat swollen. Beyond these there were no points to note about the patient, who suffered but little from shock. The next day he was as before; and it is noted that he had passed water naturally, but that it contained two or three small blood-clots; he had also been very sick during the night. At this time I saw him, and, finding no distinct evidence of any internal injury, directed him to be kept perfectly quiet, with hot fomentations over the abdomen, and that there should be no manual examination of the latter lest some disturbance of possible healing processes might take place, and as nothing could be gained by further examination. On the 19th it is noted that the abdomen continued painful, that there was distinct resistance in the abdominal wall over the right flank and iliac fossa, with dulness over the same area, and pain on pressure. Two days later these symptoms were less marked, and it appeared as though they were due to some effusion of blood in the abdominal wall rather than anything deeper down. The bowels were moved naturally, and the temperature, which had risen at first on two or three occasions above 102°, was now about normal all day. For the next few days there was nothing to note about the child's general state, and he left the hospital to go home on Aug. 28th. It may be mentioned here, however, that the boy appeared rather a delicate child. He had had bronchitis several times, and enlarged glands on the right side of the neck since a year old. He had a congenital scrotal hernia on the right side. His parents, however, are healthy, and there is no family history of phthisis.

So far you will observe, gentlemen, that the question of any serious abdominal lesion appears to have been negatived. Had the liver, intestines, bladder, or spleen been injured, there would probably have been severe shock; rupture to the liver would also probably have led to effusion of blood into the peritoneum, and the same may be said of the spleen, but there was no effusion during the fifteen days the patient was in hospital on the first occasion. Again, the bowels acted normally all this time, showing that the intestines were intact. The urine, too, was passed naturally, indicating that the bladder had escaped injury. The only symptom pointing to any lesion of note was the passage of two or three small worm-like blood-clots in the urine first voided. No other urinary symptom was present; but this, nevertheless, was a most valuable piece of evidence, as was proved subsequently. You will please note also that after the first few days the temperature fell to normal, and there was no evidence of any inflammatory trouble anywhere. But on returning home on May 28th the patient's condition appeared to grow worse. He seemed restless and in pain, and he was brought back to us two days later. On his readmission, on Sept. 1st, I examined him carefully, and found a fluctuating swelling filling the right side of the abdomen. This tumour had all the characteristics of a hydronephrosis or of an accumulation of urine in the flank, to which I will beg you now to give attention. The tumour reached from the right twelfth rib to the iliac fossa, where it was rounded off with a well-defined margin, and filled up the whole flank as far as the middle line to the level of the umbilicus. There was distinct fluctuation over all this region, and dulness on percussion from the loin forwards until the anterior and inner aspect of the swelling was revealed, where it was bounded by the colon. The patient could lie in any position and could extend both thighs equally; there was no heat, redness, or swelling of the skin, and the temperature was normal. From all these facts, coupled with the history of the injury, and the passage of two small worm-like clots in the first urine voided after the accident, I came to the conclusion that the case before us was one of injury to the right ureter from crush by the cab-wheel, and all the urine was accumulating in the right side instead of passing into the bladder. A localised peritonitis with encysted effusion appeared to be negatived by the absence of fever, tenderness, or pain on movement of the abdominal muscles or thighs. I pointed out that one of three things must have happened: (1) Either the ureter was simply bruised, and consequently so swollen or blocked by clot as to be impervious; or (2) it was completely torn across, and the urine was being poured out into the peritoneum, being limited by a layer of plastic matter; or (3) it was completely torn across without injury to the peritoneum, and the urine had formed a sac for itself in the post-peritoneal tissues. I had no doubt that one or other of these conditions was present, and, on the chance of the ureter being simply bruised and capable of recovering itself and allowing the hydronephrosis to discharge down the ureter in the usual way, I waited until September 3rd, simply keeping the child quiet and applying hot fomentations to the side. By this time, however, it seemed plain that no such issue was likely to take place, and that something must be done, as the swelling was becoming much larger and more tense each day, while the child lost his spirits and seemed to suffer considerably from the distension, sleeping badly, and being very fretful. The urine all the time was normal, and on September 3rd it is noted as acid in reaction, normal in appearance, of a specific gravity of 1021, and free from pus, blood, or albumen. Temperature 99°.

I now thought it necessary to aspirate the tumour and draw off the fluid. This I did with a fine needle, introduced midway between the last rib and the iliac crest and eight centimetres from the mid-line of the back. At this spot it is perfectly safe to puncture any form of renal tumour, and in a considerable number of cases in which I have operated in this way and seen others operate I have never observed any ill effect. The needle enters well behind the peritoneal reflection, and there are no other structures of any importance to be wounded if the point is not thrust too far. In this case, at the depth of about half an inch, the needle entered the collection of fluid, and of this I drew off forty-five ounces and a half. To the naked eye this fluid had all the characters of healthy urine. It was amber coloured, slightly cloudy; its specific gravity was 1010; it showed no deposit microscopically; it contained a quarter of albumen and a half per cent. of urea, also chlorides. Our diagnosis, therefore, was confirmed almost to certainty. But I was anxious to gain further evidence, especially as to the percentage of urea in the fluid, before pronouncing positively and determining on the more radical treatment of the case, as radical treatment could only be extirpation of the kidney ultimately. You will notice, gentlemen, that the secretion aspirated contained only a half per cent. of urea,

while the urine passed per urethram at this time contained 2½ per cent.; it also contained 25 per cent. of albumen. But you must also know that this is only what we might expect even with a perfectly sound kidney on the right side. For it has been shown by experiment on dogs that if there be an obstruction to the flow of urine through the ureter, the kidney is unable to excrete its full amount of urea, while it still preserves its power of secreting urine of low specific gravity, and hydronephrotic fluid contains albumen in many cases, if not all. Now, in this case, with a bruised or torn ureter, the right kidney would have to overcome considerable resistance as it forced its secretion into a slowly yielding sac, and therefore we should expect a low percentage of urea, just as in those cases where in the dog the ureter has been ligatured, and the urine collecting above the ligature has been tested. Of course the possibility of this being a localised peritonitic effusion had occurred to me, and the small trace of urea did not quite negative this. I therefore resolved to aspirate the collection a considerable number of times, at such intervals as should best relieve the child from the distension, watch the effect, and carefully test the fluid drawn off each time for urea and albumen, &c., and then drain the collection and see if the right kidney did not regain its power of eliminating urea, all obstacles being removed. I wished further to see if we could not gain some additional evidence as to the secretion being renal or not by observing what effect varieties of diet would have on the percentage of urea found in it. Besides these points of special clinical importance, there were several other matters of more purely physiological interest which it was desirable to note carefully. And here I may say, gentlemen, that, thanks to the care, patience, and thoughtfulness of Mr. Brown, House-Surgeon, and Mr. Young, the clerk to the case, who carried out my wishes in the most satisfactory manner, we have before us a most important series of observations, whether we regard them as a purely clinical record or as a physiological study. All praise is due to those gentlemen for the way in which they have done their duty, and it is particularly gratifying to think that the series of observations conducted for me by Mr. Young go far to fill up several gaps in our knowledge of renal affections which it was impossible before this to fill up for want of suitable cases for study in the human subject.

For you must know, gentlemen, that this case, though not quite the first of its kind recorded, is unique as regards the opportunities it offered for observation on the points to which I allude, also in having been made use of to elucidate many matters quite impossible of demonstration in the human subject, except in a case of the kind. And I may further tell you here that, so far as I can make out from a careful search through our home and foreign literature, only one case[1] at all like this has been put on record as a definitely diagnosed condition, while only two[2] more were shown to have been probably of the same nature after death, some months subsequent to the injury. These cases were published over forty years ago, and we need hardly be surprised if the records on many important points are scanty and defective, especially if we remember the advances made in the study of the chemistry of the urine since then.

Now, it so happened that in this case an early diagnosis was made, and that this received confirmation from the first tapping of the fluid accumulation. The evidence, however, was not absolutely beyond question. First, there was very little urea in the liquid aspirated; next, it contained a large quantity of albumen; again, it was desirable to see how soon it would refill to its former dimensions, and how far the opposite kidney was adequate. Now, it turned out that the tumour did refill, and just took about a week to reach its former size, so that I aspirated it once about every seven days for six weeks. Let us turn now to this table, in which I give you an abstract of the clinical charts prepared daily at the time, and see what we learn from what was observed. The charts themselves are very complete and elaborate, but it would occupy too much time to give them *in extenso*. They will always remain in the hospital register as one of the most complete records of the kind ever made, thanks to the clinical clerk to the case.

In the first place you will note that the amount of urine secreted by each kidney from the time of the accident up to the date on which I put in a drain-tube into the urinary collection on the right side differed very much. Out of forty-eight days, from Sept. 3rd to Oct. 22nd, the urine passed from the uninjured side during each twenty-four hours was carefully collected and measured on forty days. The average amount from this record was found to be exactly 10·5 ounces per diem (twenty-four hours). The eight days omitted were either Sundays or those on which the child had passed water into the bed, which could not be estimated. On the injured side, on the other hand, the amount secreted into the sac for the corresponding forty-nine days was almost exactly half—viz., 5·3 ounces per diem, taking the average of the amounts drawn off by aspiration once a week for the same period. Each aspiration emptied the sac completely. This contrast seems to show us that the right kidney having to overcome the resistance of an elastic sac, as it poured out its secretion, was unable to eliminate as much fluid as usual, and that the opposite kidney did extra work in compensation so as to yield 10·5 ounces daily, against its fellow's 5·3 ounces. But after free drainage of the urinary abscess was established on Oct. 23rd, and all obstacles to the secretion of the right kidney were removed, a perfect balance was established both as to quantity and quality, and for the twenty-two days, between Oct. 23rd and Nov. 19th, on which a careful record was made, the average on the left (uninjured) side was 7·8 ounces, as against 7·4 ounces on the right (injured) side. This, you will observe, corresponds almost exactly with the daily amount yielded by the two organs together before the drainage.

Next you will note that after the removal of the right kidney on Nov. 19th the remaining organ was at once able to take over the functions of the two kidneys, and not only this, but actually excreted daily more urine than both had secreted together before the operation, the days succeeding operation, 21st, 22nd, 23rd, and 24th, showing respectively 7, 26·5, 26, and 36 ounces. This was no doubt greatly due to the fact that the child lived on fluid food exclusively for some days after operation.

Then as to specific gravity, you will note that on the sound side all this time it remained fairly constant, its average being generally between 1021 and 1025, except during the week in which the patient was given an almost purely non-nitrogenous diet, when it fell to 1007. (After Oct. 22nd the readings for the individual days are given in the Table.) During the corresponding seven weeks the disabled kidney registered 1010, 1008, 1006, 1010, 1007, 1004, and 1010 respectively, the lowest figure tallying with the non-nitrogenous diet.

Next, the average amount of urea excreted was pretty constant on the sound side for each week, except when it reached 2·85 during the highly nitrogenous diet, and fell to 0·71 for the last days of the purely non-nitrogenous diet, and it rose at once again the next week on ordinary diet to 2·75. In strong contrast to this we have a very small average percentage of urea eliminated by the opposite kidney while working against obstacles of pressure. The largest record is seen in the fluid first drawn off, and yet this was only one half per cent. For the next five weekly aspirations it was constant at 0·1 per cent., in spite of change of diet, with the exception of one occasion, when it was 0·15. During the week of non-nitrogenous diet it fell to 0·05, and the next week rose to its former figure of 0·15 on resumption of ordinary dietary. But after Oct. 22nd, when the drain-tube was inserted into the urinary collection, the percentage of urea on the injured side steadily rose from 0·15 to 2·6, all resistance to excretion being removed from the right kidney (*vide* Table.) Both kidneys secreted acid urine throughout. On one or two occasions it is put down as alkaline, but I have reason to believe that it was not taken quite fresh at these times.

The urine from the sound side was always free from albumen, that from the urinary abscess contained from 20 to 50 per cent. of albumen always. This was no doubt derived from the serum and lymph secreted from the walls of the sac, which usually rendered the fluid drawn off cloudy to a small extent.

The urea excreted by the remaining kidney after the other had been removed gradually rose from 1·8 to 2·05; or if we take the amount in grains per diem, we find on the 21st, 75·6 grains; 22nd, 127·2 grains; 23rd, 124·8 grains; 24th, 164·1 grains; 25th, 121·4 grains; 26th, 177·8 grains. A glance at the average temperature of these days, taken generally about every hour, will show that the amount of urea was probably influenced by the combustion of tissue

[1] Vide Stanley, Med. Chir. Trans., vol. xxvii., 1843-4.
[2] Ibid., vol. xviii., 1832-3, p. 175, and vol. xxvii., p. 8.

RECORD DURING PERIOD OF ASPIRATION AND BEFORE FREE DRAINAGE.

	Uninjured Side.					Injured Side.				
Date.	Average ounces of urine in 24 hours.	Average specific gravity and temperature.	Average percentage of urea.	Reaction. Albumen.	Diet.	Quantity of urine.	Specific gravity.	Per-cent. of urea.	Re-action.	Albu-men.
Sept. 3rd	12		2·5	Acid	Ordinary.	Aspirated 45 oz.	1010	0·5		
,, 5th	12		2·6		,,					
,, 6th	12	1025	2·2		,,					
,, 8th	—	99·6°	2·7	=2·57	,,					
,, 9th	12		2·7		,,					
,, 10th	14		2·8	Nil	,,	42 oz.		0·15		
to	∀ = 9·6	1022	2·15	,,		,,				
,, 19th		99·5°		,,	,,	47 oz.	1009	0·1	Neut.	50%
to	∀ = 9·9	98·9°	2·12	,,						
,, 24th				,,		38 oz.	1006	0·1	F. alk.	25%
,, 25th					Ordinary mixed, consisting of bread and milk, potato, cabbage, butter, cheese					
,, 26th		1020		,,						
,, 27th	∀ = 11·8	101·3°	2·25							
,, 28th										
,, 29th		98·9°								
,, 30th				,,		34 oz.	1010	0·1	Acid	33%
Oct. 1st			3·0							
			3·2							
to	∀ = 10·5	1021	4·2	,,	Highly nitrogenous, consisting of meat, bread, cheese, milk, cabbage					
		98·1°	3·0	=2·85						
			1·8							
,, 7th			1·9	,,		37 oz.	1007	0·1		
,, 10th			2·4							
,, 11th			1·8	,,						
,, 13th			0·7		Non-nitrogenous, consisting of sugar, arrowroot, tapioca, butter, water					
,, 14th	∀ = 9·5	1007	0·7							
,, 15th		97·2°	0·7	=0·71						
,, 16th			0·7			32 oz.	1004	0·05	F. alk.	20%
			3·4			Put in drain-tube on 22nd. Collected 32 oz.				
,, 17th			3·2	,,						
,, 18th										
,, 20th	∀ = 10·0	1020	2·7	=2·75	Ordinary, mixed as above		1010	0·15		33%
		99·4°								
,, 22nd			1·8	,,						
		1024								

RECORD DURING DRAINAGE.*

Oct. 23rd	9·0	1020 98·4°	2·2	Nil	Ordinary, mixed as above	Collected 4·5 oz.	1014	0·75	25%
,, 25th	10·0	1020 99·4°	2·1	,,	,,	10·0 oz.	1016	0·9	30%
,, 29th	7·0	1022 103·2°	2·2	Trace Sl. al.	,,	9·0 oz.	1015	1·3	25%
Nov. 5th	5·0	1022 100·2°	2·6	Nil Acid	,,	7·7 oz.	1016	1·4	17%
,, 7th	4·5	1027 99·7°	2·7	Nil	,,	7·0 oz.	1018	1·7	30%
,, 18th	8·7	1027 99·6°	3·4	,,	,,	2·5 oz.	1019	2·0	33%
,, 19th	3·5	100·2°	3·0	,,	,,	5·0 oz.	1020	2·6	30%

* The drain-tube fitted the puncture in the loin exactly, and was attached to a Maw's feeding-bottle by a long piece of tubing, so that, as a matter of fact, there was no loss of urine from this side at any time, night or day.

RECORD AFTER NEPHRECTOMY.

	Uninjured Side.				
Date.	Average ounces of urine in 24 hours.	Average specific gravity and temperature.	Average percentage of urea.	Reaction. Albumen.	Diet.
November 20th	—	—	—	Nil	Ordinary mixed, consisting of bread and milk, potato, cabbage, butter, cheese.
		1018			
,, 21st	7·0	100·7°	2·25	,,	
		1014			
,, 22nd	28·5	99·2°	1·8	,,	
		1011			
,, 23rd	28·0	100·4°	1·0	,,	
		1013			
,, 24th	36·0	100·5°	0·95	,,	
		1017			
,, 25th	22·0	100·3°	1·15	,,	
		1016			
,, 26th	28·5	101·7°	1·3	,,	
		1020			
,, 27th	12·5	100·8°	1·9	,,	
		1018			
,, 28th	10·2	100·4°	2·05	,,	

going on, the highest percentage being observed on the day when the average temperature was highest—viz., 101·7°.

Now, gentlemen, I had accumulated almost all these facts, except the last data, before deciding the question of removal of the right kidney, although it appeared urgently necessary. They proved beyond a doubt that the fluid in the right flank was urine, and that the kidney secreting it was quite healthy, doing its work as to quantity and quality normally the moment the obstacles to its excreting forces were removed. They proved, further, that the left kidney was perfectly healthy, and able to take on double work if required. On several days it secreted quite as much as the average quantity of the two organs for the week, and during the highly nitrogenous dietary its elimination of urea rose as high as over 3 and even 4 per cent., while that of the other kidney remained unaffected. From this aspect of the case, therefore, there could be no objection to the removal of the offending kidney.

But other points demanded consideration. First, Is the operation of nephrectomy a dangerous one? To this I may reply at once that if we have a healthy kidney and a sound individual to deal with it is not so. Without going into details, I may tell you that I have collected a considerable amount of evidence to show that the organ may be dealt with very freely without danger when it alone is in question. Cases are on record where it has been slit open and prolapsed through a lumbar wound, and has been removed without the slightest constitutional disturbance. It has even been prolapsed through a wound and replaced, and recovered completely. We are not speaking now of its removal for diseased conditions, which is quite a different matter.

The next question to be decided was, What necessity was there for any operation at all? The answer to this is to be found in the child's condition after the injury and the history of the only analogous cases recorded.[3] You will remember that this child had an accumulation of urine in the retro-peritoneal tissues, which was increasing at the rate of about two pints a week. From our maturer observations it seemed clear that the fluid was not contained in the distended pelvis of the kidney, and was also not encysted in the abdominal cavity. Now, in addition to the discomfort and distress due to this collection, which were both very marked, there was the danger of rupture of the sac into the peritoneum at any time, and death as a probable consequence. In addition to this there was the danger of free suppuration in the sac; this seemed by no means remote, for with each aspiration of the fluid there was noticed more turbidity from lymph, although the strictest antiseptic precautions were observed. There seemed to be no hope in this case of an atrophy of the organ, which was healthy and vigorous; in the meantime, even if this were remotely possible, some immediate relief was necessary for the child, and simple aspiration was resorted to. And while this showed us the hopelessness almost of looking for gradual atrophy of the organ, it was plain it could not be resorted to for a continuance, and of course it increased the risks of suppuration of the sac. Then I tried a more perfect drainage of the sac as a palliative. But it was plain after a few weeks' observation of this measure that the child's condition was not improved, and that he ran increased risks. The slightest block of the drain-tube was followed by the severest constitutional disturbance, and on several occasions this was alarming in the highest degree, the temperature on one occasion reaching 105·6°, and several times exceeding 104°. Such blockages appeared to be unavoidable on account of the deposit of phosphates in large amounts in the cavity around the tube. On several occasions these deposits had to be removed in masses as large as beans, and could only be expected to re-form in consequence of the free flow of urine from the healthy kidney. Should the child leave the hospital and be transferred to the care of his parents, the dangers from this side would be much increased of course. Finally, if he should be freed in any way from the danger of blocking of the drainage opening, his condition would be very miserable with a constant flow of half the daily amount of urine from his side for the rest of his life, which no urinal could save him from. There appeared upon all these grounds no choice left to me but to remove the organ which was furnishing this abundant secretion. This I accordingly did as described, and the result so far has been satisfactory. The operation itself, which was strictly antiseptic, and which you have seen, requires but brief notice. It consisted in an incision, about three inches long, immediately below and in the direction of the last rib and commencing just behind the external border of the erector spinæ muscle; then division of the layers of muscle and aponeurosis; then clearing the whole surface of the kidney from its surrounding fat with the finger; next transfixion of the pedicle with an aneurysm needle armed with carbolised twisted silk, and tying the pedicle in two portions; then in drawing the kidney out of the wound, and a further ligation of the vessels *en masse* on the proximal side of the first; after this the pedicle was divided with a snip or two of the scissors and slipped back into its place; then suture with silver stitches and dressing with salicylic wool, a drain-tube being left in the original drainage opening. The whole operation lasted twenty-three minutes, and presented no difficulty except in the ligature of the pedicle, where I lost some time in tying *in situ* instead of drawing the organ out of the wound and then placing a ligature round it. I was anxious, however, to avoid dragging on the pedicle and its nerves, as this appears, in some cases at all events, to add much to shock. In this case there was no marked shock at any time as indicated by the pulse, which was carefully observed all through. Another interesting observation which I have often wished to make I was able to record in this case. This consisted in taking a sphygmographic tracing of the radial pulse immediately before, during, and after the act of ligaturing the pedicle. This was kindly undertaken for me by Mr. Horsley while I was proceeding with the operation, and you have seen the tracing (*vide* Chart). As he told you, it does not indicate any particular shock, but shows what is usually noticed when a large artery is ligatured. A very short time after the operation the child came to himself and seemed remarkably well, and soon began to talk with the other children in the ward. His temperature has risen on several occasions, but without any other alarming symptom, and probably as the result of blocking of the drain opening with some of the phosphatic deposits which have not yet been thrown off from the walls of the sac, but are daily coming away. He is now, three weeks after operation, enjoying his ordinary diet, and cheerful and well.[4] The glands in his neck noted as much enlarged for the last two

[3] Loc. cit. Two of these died within ten weeks after the accident, the other was lost sight of after the tapping.

[4] The child left the hospital and went home on Jan. 8th, seven weeks after the removal of the kidney. He had still a very small sinus in the side, yielding about a drachm of pus daily, but was otherwise well.

years and a half, and fluctuating long before the operation, have increased in size and have been since opened, giving exit to a considerable amount of pus. The rise of temperature may be accounted for, to some extent, by the maturing of these abscesses, for he has been much relieved by their evacuation. At all events his present state is satisfactory, and I hope soon to be able to bring him down here and show him perfectly convalescent.

The kidney removed proved to be perfectly healthy macroscopically and microscopically, and the pelvis was not dilated. The ureter appeared to be divided just below the seat of rupture. The lower end of the kidney formed part of the wall of the urinary abscess, and was covered with lymph and phosphates, showing the correctness of our diagnosis that we had to deal here with a retro-peritoneal collection of urine, not a true hydronephrosis. Perhaps the best name for this condition is that used above—viz., "urinary abscess"; or if this is objected to on account of the small amount of inflammation, we might call the condition pseudo-hydronephrosis.

The accompanying tracing was taken on one continuous slip, which was run through the sphygmograph as the operation proceeded, and was stopped from time to time when a fair sample of pulse was procured, but the instrument and limb were not otherwise touched. The slip is only cut in two for convenience of printing, the division being made at one of the stops (3), which corresponds directly with 4. Pulse 118. A long tracing (normal) was first taken as the child lay on the table under chloroform, and this terminates at 1, where the operation commenced at 3 P.M. After a time there appeared a slight rise with normal wave still (*a*); then, corresponding to the manipulation of the kidney, some irregularity is shown (*b*); then a fall with a different kind of irregularity (*c*); then a gradual rise, slightly increased, perhaps, by the ligature of the renal artery at *d, with a lower stroke. Pulse 140.

REMARKS ON THE

CIRCULATION OF THE BLOOD.

HISTORICAL NOTICE OF THE DISCOVERY THAT THE VEINS OF THE BAT'S WING, WHICH ARE FURNISHED WITH VALVES, ARE ENDOWED WITH HEART-LIKE RHYTHMICAL CONTRACTILITY, WHEREBY THE BLOOD IS ASSISTED ONWARD IN ITS COURSE TO THE HEART: A PROTEST AGAINST EFFORTS MADE TO IGNORE A CRUCIAL FACT IN NATURE.

BY T. WHARTON JONES, F.R.C.S., F.R.S., &c.

HAVING by experimental research elucidated the *artificium admirabile* of the circulation of the blood in the extreme vessels of the frog's web (as recorded in Guy's Hospital Reports for October, 1850), I applied myself to the study of the same subject in the wing of the bat, and had not observed long before peculiar contractions of the veins engaged my attention. The bat I first examined was of the large brown species, but it proved so restless that its wing could not be retained sufficiently steady under the microscope to admit of any accurate discrimination of the nature of the peculiarity referred to.

Having procured specimens of the grey house-bat and of the long-eared bat, I found them quiet animals, and in their wings, spread out under the microscope, I was able to make prolonged and detailed observation of the flow of blood in the extreme vessels. The result was that I discovered rhythmical constrictions of the calibre of the veins going on, whereby the course of the blood in them towards the heart was promoted, while the valves with which they are furnished prevented regurgitation. The systole or constriction of the calibre of the veins was found to be caused by rhythmical contraction of the muscular walls of these vessels, whilst the succeeding diastole took place by sudden elastic recoil. Besides making this discovery, I traced the extreme ramifications of the arteries into the capillary network, and thence the origin of the radicles of the veins, thereby correcting the mistake which had been shortly before made by Mr. (now Sir) James Paget, that in the bat's wing extreme arteries open directly into veins, and that this might be a provision of nature connected with the hibernation of the animal.

Impressed with the importance of the discovery I had made of this *artificium admirabile* for promoting the onward course of the blood in the bat's wing, which by its length is so remote from the full influence of the heart, I forthwith prepared an account of it, illustrated by exquisite drawings taken from life, for presentation to the Royal Society. My discovery I kept secret until I had given in the paper, but in the meantime confidentially communicated it to my friend the late Professor Graham, and entrusted to his care a transcript in order to guard myself against any anticipation *per fas aut nefas*. After the paper was given into the Royal Society, but before it was read, I showed Mr. Huxley the wing of a bat under the microscope, and pointed out to him the phenomena I had discovered.

By this time the discovery had come to be talked of among persons who seem to have been rather chagrined than pleased with this important addition to our knowledge of the mechanism of the circulation of the blood. Happening to fall in with a circle of such friends, Mr. Huxley heard Dr. W. B. Carpenter remark slightingly that he did not "believe Mr. Wharton Jones's observations to be correct." "But I have seen the phenomena," interposed Mr. Huxley; whereupon the gentlemen turned to Mr. Paget, who was present, and regretfully expressed their surprise that he should have missed detecting the fact when making observations on the bat's wing for his lectures on Inflammation at the Royal College of Surgeons in 1850. Mr. Paget had indeed noticed contractions of the veins, but overlooked their heart-like rhythmical character, comparing them merely to the tonic muscular contractions of arteries.

The late Mr. Thomas Bell, Professor of Zoology in King's College, was at this time Physiological Secretary of the Royal Society, and as soon as the paper had been delivered to the assistant secretary, I wrote to Mr. Bell telling him of the fact. In reply this gentleman went somewhat out of his way in dwelling on the excellence of an article on Veins which his nephew, Dr. Salter, had just prepared for the Cyclopædia of Physiology, and betrayed, as it appeared to me, chagrin that it had not fallen to the lot of his nephew to make the discovery I had made. Though the fact is of such scientific importance, the prestige of its discovery has been ignored as much as possible, something after the manner of the ostrich which buries its head and eyes in the sand to escape observation when pursued.

On the occasion of my discovery being brought before the Royal Society, the late Sir John Herschel, vice-president, occupied the chair at the meeting, and Mr. Bell read the paper. When a reference to the illustrative drawings came to be made, I saw him fumble among some loose papers on the table as if to pick up the drawings to exhibit, but no drawings were forthcoming. This, I remember well, caused me some misgiving as to their safety. An abstract of the paper, of which a copy is here given, was duly printed in the Proceedings:—

"'Discovery that the veins of the bat's wing, which are furnished with valves, are endowed with rhythmical contractility, and that the onward flow of blood is accelerated at each contraction.' By T. Wharton Jones, F.R.S., Fullerian Professor of Physiology in the Royal Institution of Great Britain, &c. Received November 20th, 1851.

"The author finds that the veins of the bat's wing contract and dilate rhythmically, and that they are provided with valves, some of which completely oppose regurgitation of blood, others only partially. The act of contraction of the vein is manifested by progressive constriction of its calibre and increasing thickness of its wall; the relaxation of the vessel, by a return to the former width of calibre and thickness of wall. The rhythmical contractions and dilatations of the veins are continually going on, and that, on an average, at the rate of ten contractions in the minute. The contractions *centrad* and *distad* of a valve appear to be simultaneous, as also the dilatations. During contraction the flow of blood in the vein is accelerated, and on the cessation of the contraction the flow is checked, with a tendency to regurgitation, which brings the valves into play. But this check to the onward flow of the blood is usually only momentary; already, even while the vein is in the act of again becoming dilated, the onward flow recommences and goes on, though with comparative slowness, until the vein contracts again. It is the heart's action which maintains the onward flow of blood during the dilatation of the vein, whilst it is the contraction of the vein, coming in aid of the heart's action, which causes the acceleration. The valves are composed sometimes of but a single flap, some-

times of two. In the situation of a valve and *centrad* of the insertion of its flaps the veins present the usual dilatations or sinuses. The valves are a reduplication of the clear innermost coat of the vein, with sometimes an intervening layer of cellular tissue. The veins closely accompany the arteries, the nerve only intervening. The author further finds that nowhere do the arteries and veins of the web of the bat's wing directly communicate, as has also been alleged, the only communication being the usual one through the medium of capillaries.

"In an appendix to this paper, the author describes the result of his microscopical examination of the structure of the veins and arteries. Both artery and vein have a middle coat of circularly disposed muscular fibres; but the appearance of the fibres is different in the two vessels. The fibres of the vein are $\frac{1}{7500}$ in. broad, pale, greyish, semi-transparent, and granular looking. In general aspect they very much resemble the muscular fibres of the lymphatic hearts of the frog; but in none did the author detect an unequivocal appearance of transverse marking. The fibres of the middle coat of the artery are not so pale looking, are clearer, and exhibit a more strongly marked contour.

"In another appendix the author states that the veins of the ear of the long-eared bat were found not to be endowed with rhythmical contractility, and that the muscular fibres of their wall present microscopical characters similar to those of ordinary veins."

By-and-bye the paper itself was ordered by the Council to be published in the Philosophical Transactions. So far well. But here comes the mystery as to the drawings. Mr. Bell wrote to me saying that they were not to be found, and asking if I could supply another set. Fortunately, I had preserved the original sketches, and they admitted of being touched up, so that engravings could be made from them sufficiently illustrative of the essential points of the subject. They were, however, poor substitutes for the exquisite drawings which had, it was alleged, disappeared.[1] There is always a chink between the plates of one's armour, and thus it was that notwithstanding all the precautions I had taken to ensure my paper against any encroachment *per fas aut nefas*, I had to lament the loss of the drawings. No explanation was offered to me by Mr. Bell as to how they had disappeared, and of course I could not well ask for one. A calm review now, after the lapse of thirty-two years, however, of the circumstances at the time, and of what came to my cognisance subsequently, fails to disabuse my mind of a suspicion that the drawings were not fairly dealt with.

This discovery of the heart-like, rhythmical contractions of the veins of the bat's wing was a crucial one in the history of the circulation of the blood, inasmuch as it shows how, by the new force thereby brought into play, the onward movement of the blood is and may be promoted when by the distance of an organ from the heart the force thereof would be inadequate. As an example of design, the mechanism in question is simply marvellous. The veins of other parts of the bat's body are not similarly endowed with rhythmical contractility, as may be seen in the ears of the long-eared bat, which admit of examination under the microscope; these organs being so near the heart that the circulation in them requires no additional power for its maintenance.

I have no hesitation in boldly claiming for the discovery of the heart-like, rhythmical contractions of the veins of the bat's wing and the promotion of the onward course of the blood thereby, the third place in the history of the circulation of the blood; the first being Harvey's exposition of the true mechanism of the action of the heart and great arteries, whereby the blood is driven to all parts of the body through the arteries and back to the heart through the veins; whilst the second was Malpighi's discovery of the capillary vessels and the passage of the blood through them from the extreme arterial ramifications to the radicles of the veins—a discovery which Harvey anxiously sought to make, but failed for want of the means of investigation. In a clinical lecture on the circulation of the blood, which I delivered at University College Hospital a few years ago, and which was printed in THE LANCET, I remarked that if Harvey had been one of the party comprising among other eminent philosophers, Christian Huyghens, to whom Leuwenhoek tells us he demonstrated the capillary circulation in the tail of a minnow under one of his simple microscopes (the lens ground by himself), he (Harvey) would have danced for joy. To this I may here add that if Harvey had been present that evening at 35, George-street, Hanover-square, London, when I showed Mr. Huxley in a bat's wing under the microscope the rhythmical action of the veins, and the acceleration of the onward course of the blood to the heart thereby produced, while valves[2] prevented regurgitation, he (Harvey) would, I am sure, not only have danced but sung pæans also.

In 1656 Harvey gave the College of Physicians an estate, part of the income from which was to endow a solemn oration to be delivered annually in commemoration, among other things, of "any addition made to the sum of medical science." The elucidation of the mechanism of the circulation in the extreme vessels was, we have seen, an object of anxious solicitude with Harvey, and doubtless the discovery of the heart-like action of the veins in the bat's wing would have been considered by him above all things as coming under the category of "an addition to the sum of medical science," and therefore ought to have been at once recognised as such at the College of Physicians. The discovery of the heart-like rhythmical actions of the veins of the bat's wing, with valves in operation to prevent regurgitation, though made thirty-two years ago, has, however, never been mentioned in any one Harveian Oration that I am aware of. Such shutting of the eyes to facts in nature is only equalled in disingenuousness by the pretence of seeing things that do not exist in nature. Some years ago, when Dr. Burdon Sanderson, my then colleague at University College, and now Professor of Physiology in the University of Oxford (the same gentleman who undertook to show me the emigration of white corpuscles of the blood from the interior of small vessels, but did not keep his appointment), was about to deliver the Harveian Oration at the Royal College of Physicians, I wrote to him suggesting that he should go into the subject, but he declined to do so. Whether he had ever made himself acquainted with the facts by observation, I did not at the time know. It being his duty as a professor to teach his pupils crucial facts in physiology, I presumed that he had done so. I now find, however, that such could scarcely have been the case, judging by the meaningless passage in his syllabus of lectures—viz., "in certain animals veins contract rhythmically," and this without any reference to the effect on the flow of blood. Whatever may have been taught in lectures on the subject to students, I have found that in the books on physiology which have come under my notice the rhythmical contractions of the veins of the bat's wing are either not at all mentioned, or, if referred to, mentioned in such a manner as to indicate that the author had never seen fit to look on the original, or to read my paper, or even the abstract of it, as intercalated above. In my "Inquiry" concerning the alleged primary active dilatation of small arteries under the influence of imaginary vaso-dilator nerves, the shortcoming of McKendrick's Physiology in this respect was commented on. The reference to this book reminds me that the author of it, the Professor of Physiology in the University of Glasgow, also holds, or recently held, the Fullerian Professorship of Physiology in the Royal Institution of Great Britain. As the founder of this professorship, Mr. John Fuller of Rosehill, was a distant kinsman of mine, and as I had the honour of holding the office thirty-two years ago, I regard it with some interest. It was during my incumbency that I discovered the heart-like action of the veins in the bat's wing. I therefore took the opportunity in the course of my lectures to give the audience an account of the admirable mechanism. Judging from Professor McKendrick's lectures at Albemarle-street as reported, I fear his account of the subject therein has been as far from the facts in nature as are the statements in the Text-book of Physiology for the use of his class in the University of Glasgow here criticised.

(To be concluded.)

[1] In supplying the new set of drawings, I requested that they might be returned to me after the engravings were made, and they were accordingly returned.

[2] My discovery thus included the observation for the first time of valves in action in the veins of a mammiferous animal, such as no doubt takes place in the human body.

NAVAL MEDICAL SUPPLEMENTAL FUND.—At the quarterly meeting of the directors of this fund, held on the 13th inst., Sir W. R. E. Smart, K.C.B., M.D., Inspector General, in the chair, the sum of £82 was distributed among the several applicants.

RHIGOLENE: AMYL HYDRIDE.

BY BENJAMIN WARD RICHARDSON, M.D., F.R.S.

THE annotation on Rhigolene in THE LANCET of the 10th inst. requires, if I may venture to say so, some slight correction and supplement. Rhigolene is the crude or impure hydride of amyl, $C_5H_{11}H$, and is the lightest fluid of the petroleum series. It has a vapour density of 36, taking hydrogen as 1; a specific gravity of 625, taking water as 1000; and a boiling-point of 30° C. (86° F.) It is insoluble in the blood at the natural blood temperature. The fluid in the crude state has a faint but pleasant odour and a slight taste; it causes no irritation, and when raised into vapour can be inhaled without difficulty. It mixes with anhydrous ether in all proportions.

Rhigolene is not in any sense a local anæsthetic by virtue of causing insensibility from its absorption. It cannot, in fact, be absorbed locally. It can, however, be dispersed, like ether, in the form of spray for producing cold; in that way it can be used for causing anæsthesia by extreme cold, and so used is valuable for quick and superficial freezing. Within a few weeks after the appearance of my original essay on Ether Spray in 1866 a merchant in the City sent me a specimen of rhigolene, as "a fluid lighter and less soluble than ether, and with a lower boiling-point," he having read that I wished for such a fluid. I at once brought the fluid into service for spray, and found it most effective for rapid freezing. In dentists' practice it soon became very popular. The cold produced by the rhigolene spray is so intense that I have seen a portion of the skin rendered hard, white, and insensible by it within two seconds. At first sight this promises well, but as a general fact the action is too rapid. The superficial layer of surface that has been so rapidly frozen is rendered a non-conductor, and deep freezing and deep insensibility are prevented. Finding this out, I constructed the *compound anæsthetic ether for local anæsthesia*, consisting of rhigolene and anhydrous ether in equal parts. That fluid has been very largely used from the time when it was brought out, and is still in use as largely, I believe, as ever.

Rhigolene may be used alone, as spray, in some cases. For inserting a suture it answers well, the point where the needle is to enter being made insensible by it instantly, and quite long enough to save the pain of the puncture. It can be used for painless extraction of loosened stumps of teeth and for puncture of a superficial abscess. Directed as spray over the closed eyelid, held tense over the ball of the eye, it causes a brief insensibility of the conjunctival surface, the conjunctiva, an almost insulated surface being more easily rendered either sensitive or insensitive by local influences than other mucous surfaces, which rest on a deep cellular basis, or than the cutaneous surface.

Rhigolene, though not in itself a local anæsthetic, is capable of producing general anæsthesia on administration of its vapour by the lungs. Purified by distillation, it is a colourless and odourless fluid, and is even agreeable to breathe. It causes general anæsthesia with great rapidity, often within the minute, with recovery in two minutes. In my report to the British Association for the Advancement of Science at Exeter in 1869 (Trans., p. 412), I spoke favourably of it for general anæsthetic purposes; but later experiments with it showed me that owing to its insolubility it was dangerous—as dangerous as amylene. I therefore ceased to advocate its introduction for general anæsthesia.

Readers who may be interested in this fluid may turn to my Exeter Report upon it for some other curious and useful applications of it, of which I will briefly notice three.

For Burns.—I found that camphor and spermaceti dissolve in rhigolene freely. I therefore made a saturated solution of spermaceti and rhigolene, and then added camphor until that ceased to be dissolved. The solution so formed was applied with cotton-wool to burns. The evaporation of the fluid gave instant relief to pain, and left over the surface a thin layer of spermaceti and camphor, which excluded air and gave an excellent dressing. One drachm of spermaceti and one drachm of camphor will dissolve in two fluid ounces of rhigolene.

For Iodine Disinfection.—I found that the fluid would take up iodine. I used it, consequently, for making an iodine solution, and employed the solution for various purposes. Applied to the surface of a fetid wound, it leaves the iodine on the surface in finest subdivision. Sprayed into the throat, it is very useful in malignant or fetid ulceration, one or two injections of the spray being quite sufficient to leave a free portion of iodine on the surface. Inhaled as a weak solution, it affords a means of allowing iodine to enter the respiratory tract, a little iodine being always carried over with the vapour. The strength of the iodine solution which I use is five grains of iodine in one fluid ounce of rhigolene. One of Gamgee's excellent absorbent pads treated with half a fluid ounce of this solution becomes in a few moments a most perfect iodine sponge, applicable for a variety of useful purposes.

For Antiseptic Use.—By shaking a strong solution of ammonia with the rhigolene and then decanting off the water, I obtained an ammoniated solution which acts as an excellent antiseptic, the vapour of which can be inhaled. The same solution charged with camphor is very useful for the preservation, temporarily, of natural history specimens. Dead objects are perfectly preserved by putting them for a short time into a bath of the solution, letting the fluid escape as vapour, and leaving the camphor in the tissues.

Manchester-square, W.

ON FUNCTIONAL AND FALSE MURMURS.[1]

BY J. KINGSTON FOWLER, M.A., M.D.,
ASSISTANT PHYSICIAN AND PATHOLOGIST TO THE MIDDLESEX HOSPITAL; ASSISTANT PHYSICIAN TO THE BROMPTON HOSPITAL FOR CONSUMPTION.

WHEN we find one of the normal sounds of the heart replaced or accompanied by a murmur we have, as a preliminary step to a complete diagnosis, to give an answer to two questions, Is this sound produced within the heart? If so, does it indicate organic disease of a valve? That a murmur may exist independently of structural lesion is a fact so well recognised that it is only necessary to mention it, but I doubt whether the great frequency with which such a condition is met with is fully appreciated by those who have not paid especial attention to the subject. At a clinical demonstration which I gave last year at the Brompton Hospital, I was able to show fourteen patients at that time under my care in the out-patient department, in each of whom a murmur was present which, although simulating the altered sound indicative of organic valve disease, was really due to some extrinsic or functional condition.

There are, I imagine, few physicians who have not at some time met with a patient who has told them that he is quite aware that his heart is diseased, as his life was refused for insurance on that ground years ago, whilst on examination, although something abnormal has been detected in the heart's sounds simulating the effect of organic change, it has proved to be nothing more than a false or functional murmur. This subject derives an additional importance from the fact, now becoming generally recognised, that acute rheumatism, certainly the most common cause of endocarditis, is frequently accompanied by changes in the heart's sounds almost identical with, and easily mistaken for, the results of organic disease. An important contribution to our knowledge of the conditions under which such murmurs may be found has been lately made by Dr. Angel Money in a paper recorded in vol. xlv. of the Medico-Chirurgical Transactions, "On the Great Frequency of Cardiac Murmurs in the Puerperal State." As the result of a systematic examination of 111 cases, a murmur was present in no less than 84, or rather more than 75 per cent. Of these only 2 were of undoubted organic origin; in 51 cases the sound resembled an ordinary endocardial murmur, and first appeared most commonly a day or two after delivery.

The various conditions which may give rise to these functional and false murmurs may be conveniently classified thus:—1. Displacement of, or pressure upon, the heart, the result of previous disease of the (*a*) lung, (*b*) pleura, or (*c*) thorax. 2. Effusion into the pleural cavity. 3. Changes in the pleura of the præcordial area. 4. Changes in the lung overlying the heart. 5. Changes in the pericardium. 6. Altered conditions of the muscular walls of the heart. 7. Altered conditions of the blood.

1 (*a*) *Displacement of the Heart, the Result of old Disease of the Lung.*—As a result of the contraction of a cavity, say

[1] Read before the Medical Society of London, October 27th, 1884.

in the left apex, the heart is frequently found displaced upwards. Under these circumstances a systolic murmur is often heard in the second or third left interspace, having its maximum intensity about two inches from the edge of the sternum. The presence of the cavity and the indurated lung surrounding it intensifies the murmur, which I have in some cases found to be so distinct as to be audible over the greater part of the left chest. This sound, though more commonly suggesting aortic disease or a hæmic murmur in the pulmonary artery, I have known to be mistaken for the murmur of mitral regurgitation. When the cavity is detected and the displacement of the heart recognised the differential diagnosis should not be difficult, especially when the rare association of phthisis and valvular disease is remembered.

(*b*) *Pressure upon the Heart, the Result of old Disease of the Left Pleura.*—Perhaps of all the false murmurs which we are now considering none are more common, or present greater difficulties in diagnosis, than those caused by pressure upon the heart resulting from the contraction of the left side of the chest after an attack of pleurisy. The pleura is probably thickened, and the lower lobe of the left lung partially collapsed, and at each systole a sound is produced by the sudden impact of the heart displacing the air in the larger bronchi. This may be audible not only at the apex and in the axilla, but also at the angle of the left scapula, in the trachea, and in the mouth.

In one patient under my care, who was shown at the demonstration above referred to, a systolic murmur produced in this manner was distinctly audible to those present at a distance of more than a yard from the patient. When he held his mouth open a puffing sound was heard, which may be imitated by saying Hah! hah! during expiration. In this case an aneurysm of the aorta with pressure on the trachea had been suspected. I may here remark that the presence of a systolic murmur in the trachea, which has been said to be diagnostic of aneurysm of the aorta, is far from having such an important significance. I have several times detected it even during attacks of functional palpitation.

(*c*) *Displacement of the Heart from Deformity of the Chest.*—I have met with several instances of murmurs originating from this cause. One particularly I can recall in a woman, in whom the lower part of the sternum was depressed to such an extreme degree that by careful measurement it was clear that its posterior surface was only separated from the spine by a distance of about two inches. The chest was shaped like a crescent with blunted horns, the left one holding the heart, which could be literally grasped by the hand and all its movements distinctly felt. Here a loud systolic murmur was present. Latham, in his Lectures,[2] thus graphically describes such cases:—"Strange things happen to the heart when the chest is deformed. There is an end of our pretending to calculate what its condition may be by listening, and feeling, and percussing. Its sounds, and impulses, and resonances, be they what they may, are now worth nothing at all as guides to diagnosis. The heart is dragged from its proper seat and imprisoned in some strange place, and perhaps turned almost topsy-turvy by the encroachment of the vertebral column and approximation of the ribs. And thus cramped and hooped about with bone, at every movement it gives a jar that may be felt and a sound that may be heard in every part of the chest; and this sound which is thus conveyed to a distance is seldom the natural sound, but a loud whiz, the same in kind and the loudest in degree which belongs to mechanical impediment from valvular disease. And mechanical impediment there is, but valvular disease there is none. The weight and pressure which the heart or its large vessels sustain from the hard framework of the chest raise the impediment, and throw it in the way of the circulating blood."

2. *Effusion into the Pleural Cavity.*—In some cases of pleural effusion, more frequently, I believe, when the left side of the chest is affected, a loud and prolonged systolic murmur may be heard either near the apex or at the base of the displaced heart. This murmur so exactly simulates that of mitral regurgitation that when heard for the first time it is difficult to believe that the patient is not suffering from valvular disease in addition to his pleurisy, or the case may even be regarded as one of hydrothorax resulting from the condition of the heart. I have met with only two examples of this murmur, which I believe to be of very rare occurrence; both were cases in which there was a very large serous effusion on the left side; in one of them, as tested by the manometer, there was an absolute pressure within the pleural cavity. Such a condition is, it appears to me, unfavourable to regurgitation through the mitral orifice, but likely to produce a murmur either in the aorta by pressure upon the vessel, or, what is more probable when the murmur is localised at the apex, within the ventricle itself. The murmur completely disappears on the removal of the fluid from the chest.

3. *Changes in the Pleura of the Præcordial Area.*—Friction murmurs having their origin in some change in the præcordial pleura are very common. They are probably produced by the impact of the heart against the chest wall forcing back the thin margin of the lung, the pleural covering of which is roughened. This sound may be systolic in time, but is more commonly of a to-and-fro character, when it may suggest that aortic regurgitation is present. It is superficial and rough, localised, and generally becomes more distinct on firm pressure with the stethoscope. When the breath is held, after a deep inspiration, the murmur usually disappears, as then the lung is fixed and is uninfluenced by the contractions of the heart. It is important to note that a true pleural friction sound can usually be detected in the neighbourhood of these murmurs, which are commonly not exactly systolic or diastolic in time.

4. *Changes in the Lung overlying the Heart.*—In the subjects of pulmonary phthisis it is very common to hear a systolic murmur about the apex of the heart which closely resembles the murmur of mitral regurgitation, whereas, as is well known, these two conditions are rarely associated. The sound is caused by the impact of the heart upon lung tissue partially consolidated, producing an audible sound by displacement of the air in the bronchi in a similar way to that already described. It is almost always most distinct during expiration, is superficial, high pitched, and disappears when the breath is held after a deep inspiration, and often becomes inaudible when the patient lies down. This murmur may sometimes be heard in the axilla and at the angle of the left scapula, and in such a case may be readily mistaken for one of mitral regurgitation. The most common site of a murmur thus produced is not, however, at the apex, but in the second left intercostal space, about two inches from the sternum. In doubtful cases of early phthisis at the left apex the presence of this morbid sound is strongly suggestive of lung consolidation. In many of these cases, however, it is probably due to some displacement of the pulmonary artery, the result of the disease of the neighbouring lung. It was not until some time after I had, as I thought, discovered this sign and marked its association with phthisis—as probably many others had done before me, for there is little new in the field of physical diagnosis—that I found it had been fully described by Latham, who thus refers to it:—

"Of such a murmur, often audible in this situation exclusively, I am certain as a matter of fact, and certain, too, of its very remarkable accompaniments. I have witnessed it in those who were undeniably consumptive, or in those who were too justly suspected of being so. I cannot say in what proportion of the phthisical it occurs, but I am continually meeting with it."[3]

(To be concluded.)

[2] Lectures on Subjects connected with Clinical Medicine, second edition, vol. i., Lecture iii., p. 61.

[3] Lectures on Subjects connected with Medicine, vol. i., Lecture iii., p. 66, second edition.

SUGGESTIONS ON THE GENESIS OF DISEASE FROM AN EVOLUTIONARY POINT OF VIEW.

BY W. HENRY KESTEVEN, M.R.C.S.

IT has occurred to the writer that the adoption of the germ theory of disease necessarily involves the application of the theory of evolution, and that here may be found a means of accounting for the genesis of the various forms of disease. Germs are living matter; they must therefore be under the influence of those laws and forces which condition all living matter. The most important of these, or the one that most interests us in the present connexion, is the law of natural

selection; and it must be that germs, in common with other forms of life, are under the influence of this law in some shape. Natural selection is a general term which embraces all other modes of selection, or provision for the "survival of the fittest." Among these is sexual selection, and taking a broad view, we may also include selection by man. In order, then, to the attainment of greater exactness may we not give a name to that form of natural selection which has been potent in bringing about the variations in the characteristics of those germs, to which the differences in the forms of disease are due? Such a term may be found, I would suggest, in "tissue selection," as indicating the special means whereby the constitution of the germs has been modified. The actual origin of the bodies which have received the names of germs is not at present determinable, and to say that they do not originate *de novo*, in decaying matter or elsewhere, is only to reaffirm the axiom now pretty generally admitted, *Omne vivum e vivo*. The fact that meets us here is that these germs, call them bacilli, vibriones, bacteria, or what we will, are met with almost universally in the atmosphere that we breathe. It is with the "why and the wherefore" of their existence that we are concerned. In looking for this, it will be necessary to consider the facts of the life history of these germs, and to try to discover how they have been and are influenced by their surrounding conditions. We find that the conditions favourable to the full vital activity of these germs are a moderate temperature, moisture, and a resting-place or nidus in some organic matter whose chemical constitution enables it to afford the pabulum necessary for the maintenance of their existence. On the other hand, the influences antagonistic to their well-being are excessive heat or cold, the action of certain chemical bodies, and a condition of dryness. The last is certainly prejudicial, as it seems to hinder their full vital activity. At the same time it cannot be considered absolutely obnoxious, as it is the means which favours their locomotion in the atmosphere. Putting aside, for the meanwhile, the thermometric and atmospheric conditions, we shall see that the condition which most concerns us is that of a favourable nidus. A favourable nidus is one in which the germ is enabled to carry on its full vital functions, and to propagate its kind. It is therefore manifest that the constitution of the nidus must be free from elements antagonistic to such vital functions. It must not be too hot, or too cold, or too dry, and its chemical constitution must be favorable. Experiment has proved that oxygen in excess is deleterious to these organisms; its absence, entire or partial, will then be one of the requisites in this chemical constitution of the nidus. Is not such nidus best found in decaying or degenerating animal tissue? Where there is full vital activity in any animal tissue, the blood which nourishes it keeps it duly supplied with oxygen. In healthy tissue, then, we have a condition unfavourable; but when from some cause the nutrition of the tissue is interfered with and a condition of degeneration is induced, this antagonistic element is removed or at least diminished, and the tissue affords the nidus favourable to the vital phenomena of the germs. These vital phenomena are perhaps best studied in the analogous case of the spores of yeast (torula cerevisiæ). When this, which is to all intents and purposes a germ, is placed in favourable circumstances, its activity commences, it rapidly multiplies and gives rise to changes in the surrounding material. In this case we call the process "fermentation." A germ, bacillus, bacterion, or vibrio, when placed in relation to tissue which affords a favourable nidus, assumes its full vital activity; it multiplies and gives rise to changes in the tissue with which it is in contact. These changes we call "inflammation." In fact, it would appear that these germs in one sense fulfil the part of nature's scavengers, and by setting up inflammatory changes in degenerate tissues lead to their removal. Be this as it may, the diseases to which the germs give rise are all more or less of an inflammatory nature.

Thus, then, it would seem that one of the chief vital functions of these germs is to excite an inflammatory process in degenerate tissue. Is it not conceivable that germs may have existed, or even do still exist now, whose function is strictly limited to action on degenerate tissue? That this may perhaps have been the limit strictly assigned to them? Let us suppose this to be the case, and see how from this limited condition, germs have acquired power to overstep these limits, and thus to give rise to the protean aspects of disease that we now meet with. What has caused variation in the animal world but the influences of surrounding circumstances? In the relationship of the germs and the degenerate tissue, it is plain that in one sense the germs are the active, and the tissue the passive, elements. But looked at from the tissue point of view, it will also appear that this passive condition possesses considerable indirect influence on the germs, that, indeed, "passive" is hardly the word to express the action which must largely modify their constitution. It would be impossible for the germs to live, to grow, to multiply on a certain tissue without becoming imbued with certain characteristics of that tissue. Hence a difference, a variation, between the parent germs and their offspring.

Now, the one characteristic of the tissue which most strikes our attention is its degeneracy, and this degeneracy must exert its influence on the organisms which depend upon it for existence, so that in the thus derived organisms we have the germ vitality and function, *plus* a certain amount of degenerate tissue characteristic. Germs thus modified and brought into contact with tissue of the same kind, though less degenerate, will, in virtue of this constitutional modification, stand a better chance of establishment thereon, at the same time adding to the degenerate condition with which they meet in the new tissue the characteristics of the degeneracy of tissue they have left. The effects thus produced will be more acute, the constitution of the germs further modified, and their power increased. Hence it is possible to conceive that if by any chance a condition of tissue which could be called perfectly healthy was to be anywhere met with, even this tissue might in time become subject to the influence of these organisms. Of course tissues may be more or less susceptible to their influence, more or less healthy, but it is more than doubtful whether it can be positively said of any one tissue that it is absolutely healthy, any more than it can be said of the individual man or woman. It is therefore possible to conceive that at some time or other there has existed only one kind of germ, that variations from this one type have arisen in consequence of the modification wrought upon different individuals by their chance falling upon this or that degenerate tissue. Variation must lead to specialisation, and finally we find diseases, all dependent upon the action of germs, as different from one another as one species of animal differs from another.

But there is another direction in which these germs must have been modified fully to account for the differences we now see. Germs may still exist which have only the power of exciting a simple inflammation in any degenerate tissue. Others, a step more advanced, are found, whose action is more potent, which have attractions for the one special tissue in which they have been bred; whilst others are capable of exciting the special form of inflammation in which they have had their origin, in tissues various in structure and composition. This power or, rather, increase of power—in other words, further variation in constitution—thus displayed is only to be accounted for by the supposition that its acquisition is secondary to the act of establishment, and that it is brought about by means of the blood itself receiving some of the germs and conveying them to some other tissue, on which, in virtue of its degeneracy, and possibly of a further modification, they have themselves received from the blood, they are enabled to effect a settlement. It must also be remembered that their modification, which enables them to select a tissue for their primary and more virulent action, does not deprive them of their original power of attacking degenerate tissue. It is simply an additional power, rendering them more potent when brought into contact with tissue possessing certain characteristics. These characteristics of the tissue originally attacked may determine the character of the action of the germs on other tissues, and thus enable us to recognise a relationship in the morbid influences at work in different tissue—as, for example, in syphilitic disease. If it is a fact that the tissue originally attacked modifies the constitution of the germs, it is surely more reasonable to suppose that the special characteristics thus impressed upon the germs are those which give the family likeness to the descendants of these germs, rather than to suppose that this morbid family likeness exists in the germs before ever they have been brought into contact with any form of degenerate tissue. In other words, may not a bacterion, pure and simple, by being brought into contact with some form of degenerate tissue, acquire or give rise to other bacteria which possess certain character-

istics which we recognise as being those of special disease, and that those characteristics enable them to excite a similar form of disease in the new nidus? It is also conceivable that as different diseases are more or less widespread or of older standing, so the germs given off from tissues affected by these diseases will have more and more power of affecting tissues less and less degenerate, even to the point of a possible condition of actual health. So, for example, the germs of scarlet fever or measles have actually acquired great power over the tissue which they primarily affect; whereas in the case of tuberculosis it is more than doubtful whether the actual presence of a tubercular condition of degeneration in the tissue, to a definite extent, is not necessary before the germs can find a suitable nidus in that tissue. Of course, germs derived from a tubercular origin will have more influence over tissue which is not so much affected than germs which have not such tubercular origin. It is, in fact, simply a matter of degree of degeneracy. May it not be this which enables persons free from tubercular taint to brave the assaults of germs be they ever so virulent?

The above are only one or two examples showing the different powers possessed by germs derived from the different forms of disease. The list of examples might be almost indefinitely prolonged. But the result would only be to show that different diseases have different powers of affecting the animal body, a fact already well known. It is the design of this paper to show that possibly these powers have been acquired by the action of some form of natural selection, here propositionally called "*tissue selection*," on the germs which inhabit the air we breathe and the water we drink; such action in the course of long ages having given rise to germs possessing special powers, and being now apparently unrelated to each other in any way. The intermediate steps between a simple germ and such a highly modified one, as, for instance, the variolous or tubercular germ, may be difficult to trace, for as we at present see these germs it is as though we were looking at a picture or photograph of a family tree in which the greater part of the trunk and larger branches had become obliterated, having only the terminal twigs visible, with no apparent connexion between them.

Holloway-road, N.

TWENTY-FIVE CASES OF

ABDOMINAL SECTION IN THE BRISTOL ROYAL INFIRMARY.

BY J. GREIG SMITH, M.A., F.R.S.E.,

FOLLOWING the good example of Dr. Malins, of the Birmingham General Hospital, and hoping to add something to the encouragement he has given to the performance of abdominal section in large public hospitals, I herewith put briefly on record my first series of cases operated on in the Bristol Royal Infirmary. I purposely exclude cases done in private. They are as follows: Ovarian cystoma, 17; solid growths of ovaries, 2; pyosalpinx, 2; hæmosalpinx, 1; exploratory, 3. A prolapsed, adherent, and diseased ovary successfully removed through the vagina is not included.

Among cases of cystic disease is included one where the tumour was mixed dermoid and cystic. In three cases the second ovaries were large enough to be reckoned as separate tumours; in five more the second ovary was removed because of incipient disease.

Of the cases of solid growth one was a pure fibroma of the ovary, measuring seven by eight inches in its diameters; in the other not only were both ovaries changed into solid growths, each about a pound in weight, but both Fallopian tubes were distended with a fluid fatty material, crowded with crystals of cholesterine.

One of the cases of pyosalpinx was the worst of the series. The patient had been very ill for two months; and when I saw her she was in a low typhoid condition, with high evening temperature (103°) and rapid pulse (120). She had also chronic bronchitis, with constant cough, and some fluid in the right pleura. The tumour was very thick-walled, rotten, almost gangrenous in parts, and, it need scarcely be added, adherent all over, more particularly to the bladder, uterus, and rectum. It contained about eight pints of highly offensive pus. There was free bleeding from innumerable points, which was checked by pressure of sponges. Part of the cyst wall, firmly adherent over the iliac vessels, was surrounded with a ligature and left behind. The operation had to be hurriedly concluded (within the hour), as the patient was near dying on the table. The treatment adopted was the following:—Nutrient peptonised enemata, drainage, and daily syringing of the abdomen so long as the discharges continued putrid. The ligatured portion came away through the wound as a slough, large enough to fill a three-ounce bottle. The patient recovered and went home, but now, eight months since the operation, there exists a sinus in the abdominal parietes, which is gradually closing.

Of the exploratory operations in one case the tumour was found to be malignant and to have invaded the peritoneum; the patient went home after a month and lived for nearly a year. A second was found to be encysted peritonitis from miliary tuberculosis. She recovered well from the operation, and died in nine months of her disease. The third was found, as was suspected, to be one of movable kidney, which was fixed.

Of these cases all recovered save one, and here the cause of death was volvulus. The patient was a broken-down woman of fifty-three, a cripple, with her joints all distorted from chronic rheumatic arthritis. The operation was not peculiarly difficult, and she appeared to be out of danger, when, on the fifth day, violent vomiting set in, which became stercoraceous in the end, and killed her in twenty-four hours. At the post-mortem examination a kink in the bowel, which was very dark and congested for a foot of its length above it, explained what, perhaps, ought to have been diagnosed during life. The rapidity with which she succumbed was easily explained by her general feebleness.

In all these cases Listerism was observed in its fullest details, even to catgut (with two or three exceptions) for the pedicle.

The operations are done in the general operating theatre, and no restriction whatever is put on students or visitors who may care to be present. For a week or ten days after operation the patient is kept isolated in a small ward; thereafter she is returned to the general ward. I may add that the infirmary building is a century old, that it stands in a low-lying, poor neighbourhood, and that its wards, affording less than eight hundred cubic feet to each patient, are always full, often overcrowded.

Clifton.

TREATMENT OF SEPTICÆMIA BY AMMONIA AND CHLORATE OF POTASH.

BY MAITLAND COFFIN, F.R.C.P. EDIN.,
PHYSICIAN ACCOUCHEUR AND TEACHER OF OBSTETRICS IN ST. JOHN'S HOUSE MATERNITY HOME AND TRAINING SCHOOL FOR MIDWIVES.

ON October 9th I was sent for to see Mr. T——. I found him very ill with erysipelas, and waited on by his wife, who was expecting her confinement every day. On the 14th I delivered her of a still-born female child, which had evidently been dead for a considerable time. Two hours after, I took her temperature; it was 100·4°, and fearing septicæmia, I gave her (having found it of use in other cases of blood-poisoning) large doses of ammonia and chlorate of potash; ordered carbolic acid (1 in 40) to be kept boiling in the room day and night, and the uterus to be syringed with Condy's fluid and water three times a day. The temperature went steadily up until the fourth day, when it reached 105·4°. The patient complained of pain in the throat and great difficulty in swallowing. The temperature kept from 105° to 105·2° until the morning of the tenth day, when it steadily declined until the evening of the twelfth day; then it went up a degree. The patient passed a large quantity of fetid discharge. I ordered the uterus to be syringed every three hours; she continued to improve, and at the end of one month I allowed her to come downstairs. On the sixth day she had some septicæmic spots, which disappeared on the thirteenth day, and throat symptoms on the ninth day. With regard to temperature, for six days and a half it was over 105°, for nine days over 103°, and for eleven days over 102°.

The treatment of puerperal fever by constitutional remedies, as distinguished from those which act locally and antiseptically, is one of great interest and importance.

Those principles which can be applied in the latter case with undoubtedly good effect are not easily carried out in the former. We can conceive that even after local septic activity is arrested, the blood and tissues of remote organs may be extensively infected; and we may naturally inquire whether there are any agents which, administered internally, will arrest the general septic processes, such as the cutaneous changes, which were well-marked in this case, or the analogous processes which we know by pathology are at work in the lungs, kidneys, and other organs. The agents which I employed in this instance have been used by me in similar cases with success, and I venture to think that the facts are worthy of being recorded, though the explanation of the *modus operandi* may not be very distinct. It may be possible that the agents used produced a change in the condition of the blood, which, though very slight, was sufficient to arrest the vitality of the bacteria or micrococci which characterise puerperal infection. To offer any suggestion, however, of this kind without some proof of its probability would be reprehensible, therefore I will conclude without further remarks.

Baron's Court, West Kensington, S.W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas at morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Procemium.

ST. MARYLEBONE INFIRMARY, NOTTING-HILL.

A CASE OF ULCERATIVE ENDOCARDITIS.

(Under the care of Mr. HERBERT LARDER.)

THE following case of ulcerative endocarditis, for which we are indebted to Mr. Larder, is one of a class of cases interesting to all—from the difficulty with which they are diagnosed, from the multiple changes which occur during their course, from the etiology, and also from the resistance to treatment which they exhibit. It is possible that cases have recovered; these must have been of slight severity, and the diagnosis of necessity very doubtful. We would refer to the remarks of Mr. Larder, which are appended to the case.

Albert M——, aged forty, a labourer, was admitted on May 7th, 1884. There was no family or personal history of any importance, and no definite account of rheumatic fever. He was accustomed to work in drains, and attributed his illness to having caught cold a month ago whilst at work in the rain. A few days afterwards he had a severe attack of shivering, which recurred on several occasions up to the time of admission. He stated that he had felt much worse since May 4th, when he took to bed; he suffered from headache, thirst, loss of appetite, and general malaise. He had noticed swelling of the eyelids and face on rising in the morning, and that his urine was scanty and very dark in colour.

On admission his state was as follows:—He was a well-nourished, muscular man; skin dry; no œdema of face or extremities; tongue moist and furred. Temperature 103°. He was lying on his back, and appeared to be very ill; he complained of cough, headache, and thirst. There was some slight loss of resonance on percussion posteriorly at the base of the left lung. There were well-marked signs of cardiac hypertrophy and a loud systolic murmur over the entire cardiac area, but heard loudest over the aortic cartilage. There was no distension or tenderness of the abdomen and no rash.

May 9th.—The patient was very sick last evening, and his temperature ran up to 105·6°. Slept well during the night; bowels opened three times, motions light in colour, and closely resembling those seen in enteric fever; urine acid, sp. gr. 1030, it contained blood, and about one-half albumen. There are numerous spots of extravasation over the trunk and lower extremities; no distension or tenderness of abdomen; tongue red and dry; skin moist.

10th.—Patient very restless; he complains of pain in both shoulders, and cries out on being moved. No swelling or redness of joints. He is lying on his back, sweating profusely, and appears very prostrate. The facial muscles are in a state of constant twitching, and there is marked subsultus tendinum at the wrist. The breath is offensive, the tongue dry and brown, and sordes on the teeth and lips. The face and conjunctivæ are suffused. He lies in a torpid, dreamy condition, with muttering delirium, but is easily roused when spoken to. The diarrhœa continues, and the motions are of the same character.

11th.—The patient remained in much the same state until 3 P.M., when the prostration increased. About 9 P.M. he had an epileptiform attack lasting a few minutes, with general twitching of muscles and frothing at the mouth. When seen immediately afterwards he was lying on his back, breathing stertorously and sweating profusely; the extremities were cold and pupils dilated, but acted to light and accommodation. He roused up when spoken to, and could answer questions, but immediately relapsed into his former condition. There was much difficulty in swallowing, but no pain; pulse extremely small and feeble. He rallied considerably under the influence of brandy, hot bottles, and blankets, but gradually sank and died at 4 A.M. on May 12th. The treatment adopted was mainly stimulants, with beef-tea, eggs, &c.

The case was considered to be one of ulcerative endocarditis on the following grounds—viz., on account of the increasing cardiac murmur, petechial eruption, renal symptoms and irregular pyrexia, with the absence of abdominal symptoms, in proportion to the duration and progress of the attack.

	Temperature.	Pulse.	Respiration.
May 8th, 10 A.M.	100·2°	96	24
„ „ 7 P.M.	105·6°	104	36
„ „ 12 P.M.	103·0°	—	—
„ 9th, 10 A.M.	102·6°	108	28
„ „ 6 P.M.	104·0°	—	—
„ 10th, 9 A.M.	102·0°	120	36
„ „ 7 P.M.	103·6°	—	—
„ 11th, 10 A.M.	102·8°	130	—
„ „ 7 P.M.	100·8°	—	—
„ 12th, 2 A.M.	100·6°	150	60

Necropsy, fifty-nine hours after death.—The body was well nourished; cadaveric rigidity very well marked in the lower extremities, but passing off in the upper. Post-mortem congestion on dependent surfaces and the lymphatics of arms mapped out. There were numerous ecchymotic patches over the trunk and lower extremities, which had been present during life. There was no swelling of the joints, but some sign of commencing ulceration over the left olecranon. Brain weighed forty-six ounces; dura mater normal, subarachnoid fluid increased in quantity, superficial vessels distended, punctæ well marked, brain substance soft. There was about half an ounce of semi-purulent fluid in each lateral ventricle. The pia mater appeared somewhat thickened and adherent to brain substance. The parietal peritoneum was apparently normal, but the small intestines were marked by numerous patches varying in colour from pink to a dark-claret colour. There was no sign of ulceration in the bowel. The spleen weighed ten ounces; it was dark in colour and extremely soft. The liver weighed fifty-six ounces; it was very pale and easily broken down on pressure by the finger. The left kidney weighed nine ounces, surface smooth, capsule easily stripped off, substance generally pale except at the lower part, which was of a dark-claret colour. The right kidney weighed three ounces and a half; it was marked by numerous dark-coloured spots of infarction, but otherwise pale in colour. The posterior wall of the stomach was of a dark-purple colour in its upper two-thirds. Bladder and rectum appeared normal. Chest: There were some slight pleural adhesions on the left side, and the right pleural cavity contained three or four ounces of blood-stained fluid. On opening the pericardium the heart appeared unusually pale in colour; the pericardium was apparently normal, and contained a very small quantity of clear serum. The right auricle contained a firm, yellow, non-adherent clot, moulded to the cavity and fibrinous in character. The right ventricle was dilated, and contained some similar clots adherent to the valves. The semilunar valves were slightly swollen, but there was no trace of vegetation. The left auricle contained a small firm yellow non-adherent clot. The left ventricle was hypertrophied, its muscular wall firm and pale in colour, and the

endocardium thickened and somewhat opaque. The curtains of the mitral valve were thickened, opaque, and marked by small vegetations. The aortic valve also appeared thickened and opaque. There was well-marked ulcerative disease of the ventricular surface of the aortic valves. On the ventricular aspect of each aortic cusp there was a firm nodule of fibrin, the size of a small Spanish nut, and firmly adherent to the surface of the ulcers. There was also a firm yellow clot adherent to the anterior cusp, and extending about three inches along the aorta. Ante mortem there was a thin firm string of fibrin extending into each coronary artery. The lining of the aorta was deeply blood-stained, but there was no sign of atheroma of the vessel. The endocardium and substance of the heart for about two inches below the valve were of a dark-purple colour. The heart weighed fifteen ounces. The right lung weighed twenty-eight ounces and a half and the left thirty ounces. The bases were congested, and the substance generally œdematous.

Remarks.—The case just related seems worthy of publication—first, on account of the disease being somewhat rare, and yet probably frequently overlooked. Secondly, on account of the difficulty of diagnosis which instances of the malady often present; and yet due recognition is of importance not only for our private satisfaction and as a basis for correct prognosis, but because timely and energetic treatment might mitigate the severity of the complaint, and perhaps save life. Thirdly, on account of its pathological obscurity; for though it is almost certainly a member of the class of septic fevers, yet on some grounds it seems to have quite a separate mode of causation. And if it be specific, it would be of interest to learn how closely it is allied to other members of the same group. In the first place, it must be noted that while a full description has been omitted in nearly all our text-books of medicine, even up to the latest editions, there is a good account to be found by Rosenstein in Ziemssen's Cyclopædia (vol. vi.), which contains almost as much as is known in the matter. In that article, after analysis of a number of cases, they are classified, according as one or another set of features predominate, into two varieties—pyæmic and typhoid. The case here related, like many others, was a mixture of the two types, in the earlier part of its course, at any rate, having close resemblance to pyæmia, while its nature towards the end strongly suggested typhoid fever. After the man was admitted into the infirmary the history contained a fact of great importance in forming a diagnosis—viz., that as the disease invaded him he had repeated severe rigors. Now, this would almost for certain exclude typhoid fever, and, putting ague out of the question, as well as bladder and suppurative renal disease, give assurance of some sort of pyæmia. Then also the presence of an increasing cardiac murmur, of a petechial rash, albuminuria in a high degree, and later hæmaturia (suggesting a renal embolus) were almost convincing evidence of ulcerative endocarditis; and the absence of an abdominal rash, &c., carried one's thoughts further from typhoid fever. In all cases of this disease the heart should be carefully examined, both during life and after death, to determine how much of the disease is recent and how much is old and chronic; for it is recent disease that constitutes the specific character of the malady and gives it its name, and is the source of certain complications almost invariably present. Here there was probably old disease, for the enlarged cardiac area showed the heart to be dilated and hypertrophied; and it is a fact that all or almost all cases occur in subjects of valvular disease from former endocarditis, generally of course due to previous acute rheumatism. Now, is this condition necessary to the development of ulcerative endocarditis, so that the latter may be excited on exposure to infection; or may exposure to specific infection induce it though the valves be healthy, so that it may be regarded as the proper lesion of an acute specific fever? Or, again, is it possible that an existing valvular disease may be a sufficient cause of an ulcerative process and its malignant consequences—i.e., may an acute attack of endocarditis, occurring, for instance, in a fresh attack of rheumatic fever, supervening on a chronic inflammation, go on to ulceration of the endocardium, and so engender a literal pyæmia, the blood in the heart becoming mixed with unhealthy pus, and thus produce embolism of the organs? This view seems unlikely, but is not impossible. The idea most generally adopted, and perhaps most probable, whether or not living organisms, so-called micrococci, are answerable for this and other septic diseases, is that it is an acute specific fever belonging to the miasmatic group—viz., diphtheria, scarlet fever, &c., perhaps attacking the heart as a "locus minoris resistentiæ" in consequence of prior disease. But if so, why is not endocardial ulceration more common in these complaints? Is a distinct poison requisite in addition, or only the presence of exceptional bodily conditions? Or if the endocardial ulceration is a sort of metastatic inflammation, why is it not more commonly met with in surgical pyæmia? The man's statement that he had caught his illness while exposed at work in drains gives favour to the miasmatic theory of causation. But it has been asserted to occur in some cases as a complication of rheumatic fever, and in this case there were articular symptoms; but the point was not settled at the post-mortem examination whether the affection of the joints was rheumatic or, as seems more likely, pyæmic. As to the nature of the blood-poisoning, nothing definite is yet known of the micro-parasitic origin of the disease.

Treatment.—Some good might be done, following Armstrong's plan of treating puerperal fever, by a large dose of calomel in the early stage, followed by salines. Quinine and alcohol, freely given, should be reserved for the later stages.

YORK COUNTY HOSPITAL.

A CASE OF CHARCOT'S JOINT DISEASE.

(Under the care of MR. JALLAND.)

MR. JALLAND'S case of Charcot's joint disease will be found specially interesting when taken in connexion with the discussion which followed Mr. Morrant Baker's paper read before the Clinical Society. In the prolonged discussion which followed the reading of the paper, most of the principal authorities expressed their opinions on the nature of the disease. These are too numerous to permit of mention here, and we would refer our readers to THE LANCET (Nov. 22nd, Dec. 6th and 20th, 1884; and Jan. 3rd, 1885) for an account of the proceedings of the Society.

For the following notes we are indebted to Mr. A. Jefferson, house-surgeon:—

Eliz. C——, aged forty-eight, a widow, was admitted in May, 1884.

Family history.—No history of any nervous complaints in any member of her family.

Previous history.—Has had no children. Since her husband's death she has followed the occupation of a charwoman; she has got on fairly well, and has not suffered much privation. Until her present illness began she was always healthy.

Present illness.—This commenced eleven weeks ago. One afternoon she was scrubbing a floor, when suddenly she felt pain in her left hip; on trying to walk she found she was quite unable to get on her legs. She was conveyed home in a cab and put to bed, her neighbours looking after her. She did not send for a doctor, thinking it was simply rheumatism, and would go off again. Previous to this she had had no lancinating pains, did not stumble in the dark, nor had her sight at all deteriorated. She remained in bed about a fortnight, and then came downstairs. This she effected in a sitting position. She found she could get about her room by holding on to the furniture, but could not take a step without. By this time the pain had left the hip. Fresh symptoms were next developed—namely, pain and swelling in the left knee, both apparently rather extreme. After a few days these somewhat subsided. She was now medically attended, and an exacerbation of the knee symptoms occurring, she was recommended to apply for admission to the hospital.

Condition on admission.—The patient complains of pain and sleeplessness caused by a "tumour" of her left knee. She looks fairly well nourished but is evidently suffering a good deal. On examining the knee it is found to be much enlarged, there being an extreme amount of synovial fluid, while through the fluid firm enlargements of the head of the tibia can be felt. The foot and leg below the knee are œdematous and there is distinct enlargement of the superficial veins over the joint. The condition of things was in fact compatible with new growth in the head of the tibia with secondary synovial irritation and effusion. The limb was placed on a McIntyre's splint and a Martin's bandage applied from the toes to above the knee. There was some pyrexia at night, the temperature rising to 101° and 102°. At first the pain continued severe and kept her

awake. There was nothing, however, in the form of lightning pains, all unpleasant sensations being localised to the joint. A week after her admission the effusion had disappeared almost entirely and the limb was taken off the splint; in doing this sudden partial dislocation of the tibia and fibula backwards into the popliteal space took place; this was accompanied by much grating and was easily reduced. Subsequently this partial dislocation was frequently induced purposely, but it never caused the patient the slightest pain or inconvenience. The enlargement of the head of the tibia was now found to be due to osteophytic outgrowths; these were not very irregular, but formed a kind of collar round the head of the bone. The history of the illness, as already noticed, was now elicited, the patient previously having said nothing about her rheumatic hip. This hip on examination was found to be dislocated on to the dorsum of the ilium by simple rotation. This dislocation was easily reduced, the bone slipping into its socket with much grating; dislocation and reduction could be easily effected, and gave rise to no pain whatever. On making further examination, a hard, bony, smooth mass, osteophytic, could be felt growing from the pelvis in the right iliac region; this was about the size of an orange, and its surface was rounded; another mass of osteophytes could be felt running down the shaft of the femur, covering about the extent and situation of the upper third of the linea aspera. This chain was a very prominent one. No other joint or bone affection could be discovered. On testing for reflexes, plantar and patellar reflex were in both limbs absent. Muscular power seemed quite undiminished in the right leg. The condition of the knee and hip on the left side made it difficult to test the muscularity of that limb; but the patient was quite able to move it about. Sensation in the left limb was somewhat diminished as compared with the right. The pupils were dilated but did not act to light. Nothing was noticeable in the optic discs. After staying in the hospital about a month the patient was discharged. By this time the fluid in the knee had entirely disappeared, as had also the œdema of the foot and leg on that side; the pain had also gone, and there was no longer pyrexia. No other symptoms, save those already mentioned, appeared during her stay in the hospital. Unfortunately, after leaving she changed her address; endeavour was made to find her, but without success.

Remarks.—This case illustrates a point laid stress on by M. Charcot—namely, that the arthropathy appears, as a rule, very early in the disease, before incoördination. The suddenness of the onset and the insidious nature of the hip arthropathy were very remarkable, as the patient declared that until the afternoon on which, when scrubbing, she felt the pain in her hip she had felt perfectly well; for we can only conclude that the sudden pain and inability to stand or walk which came on thus rapidly were due to dislocation of the hip. Another remarkable point was absence of any atrophic change in the optic disc. This of course is very different from what one would expect to find, disc changes being generally the first objective signs of locomotor ataxy. It is also curious that we have an entire absence of lightning pains, the presence of which generally, according to Charcot, is the only exciting symptom of the complaint. Charcot also says that this arthropathy is not commonly accompanied by fever, but in this case the temperature at night for some time went up to 101° and 102°.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Tubercle Bacillus and on the Pathology of Phthisis.

AN ordinary meeting of this Society was held on Tuesday last, Dr. George Johnson, F.R.S., President, in the chair. At the commencement of the evening a special ballot was taken to decide whether Dr. Herbert Tibbits should be re-elected as a Fellow of the Society. At the close of the ballot the President declared Dr. Tibbits to be not elected. The discussion on Dr. Kidd's paper was adjourned, and a special meeting for the adjournment was fixed for Wednesday, Jan. 21st, at 8.30 P.M. An excellent demonstration of the bacilli of tubercle and of their methods of cultivation was given by Mr. Watson Cheyne, and Dr. Kidd's valuable specimens were also on view.

Dr. HERMANN WEBER had noticed that but few of the bacilli were within the cells; for the majority of the bacilli were outside the cells and in the detritus of the tubercle. Were the specimens shown by Dr. Kidd taken from a late period of the disease in which the cells had perished and left the bacilli scattered about? An observer had recorded in the *Deutsch. Archiv* cases in which sections showed four or five bacilli in a great many ordinary cells of tubercle. Allusion was next made to the struggle which Metschinkoff had described between bacilli and white blood-corpuscles in the daphnia, as quoted by Mr. Bland Sutton. Had anyone observed the same process in warm-blooded animals? The greater or less vigour of the cells of different individuals might account for the varying susceptibility to tubercular infection. The pathology of apical consolidation was discussed; some cases which were simple at the outset probably became "bacillary," and led to the usual changes of tubercular phthisis.

Dr. GREEN said that Dr. Kidd's paper is an addition to the continuously increasing accumulation of facts which tend to show that the bacillus of tubercle is present in all those pulmonary lesions which we regard as phthisical, whilst it is absent in those which do not come within the category of phthisis; and in such a question as this we want facts rather than opinions. He would ask, with Sir Andrew, what Dr. Kidd meant by phthisis. Definitions of disease are admittedly difficult, but he might venture to define clinical pulmonary phthisis as including all cases of pulmonary disease which possess the three following characteristics:—(1) Lung consolidation which is usually more or less apical in its distribution; (2) lung consolidation some of which tends to undergo softening and disintegration; and (3) lung consolidation which possesses infective properties, and thus tends to spread. Such a definition excludes some forms of chronic lung disease which have occasionally been included in the phthisical category: chronic basic pneumonia with bronchiectasis; the indurative diseases of the lung due to irritating particles; the inflammatory disorganisation of the lung which results from pressure on a bronchus, and the pulmonary lesions which are distinctly syphilitic. This clinical and pathological distinction between phthisical and non-phthisical forms of lung disease is, he thought, justifiable, apart from any question of bacilli. How far is it in accord with Koch's discovery? He believed that it was in complete harmony with it. The unity of phthisis seemed to be established by the observations of those who had worked on the subject. He next inquired into the question, Are we familiar with apex consolidations which are non-tubercular? In some cases of disease at one apex, where there was no evidence of softening or disintegration, it is difficult to say whether they are tubercular or not. If they are simple are they specially liable to become tuberculous? Can we accurately speak of a pretubercular stage of phthisis? He confessed that almost insuperable difficulties seemed to surround an answer to these questions. The subject may be viewed from the standpoint of clinical history or from that of bacilli. If frequent and careful examination failed to discover bacilli, may we conclude positively on their absence? In his experience it is rare to meet with apical consolidation in which tubercle bacilli are absent. Are we justified in saying that the case is non-tuberculous if bacilli are not detected? He was afraid yet to express an opinion on this point. With regard to the clinical history, we might have termination in resolution or breaking down and progression, which he would regard as tubercular in all cases. If the symptoms disappear and the signs clear up, is it to be regarded as evidence that the case was non-tuberculous? Naturally the ultimate history would be wanting. He, for one, believed in the curability of the tubercular process, and he should doubt the existence of non-tuberculous apex consolidations. He questioned the existence of a recognisable pretubercular consolidation. Referring to scientific criticism of Koch's discovery, he considered that the question was one for experimental pathologists to investigate, and so far experimental pathology confirmed Koch's and Watson Cheyne's observations. The acceptance of the bacillary origin of tubercle in no way involves any mutilation of previous existing notions, and he ventured to say that pathology had long been tending towards the position to which these latest doctrines pointed.

Dr. WILSON FOX said that but comparatively few members of the Society could be in a position to discuss the essential

question which Dr. Kidd's paper raised. The study of the mode of generation and of propagation of the different varieties of bacteridia was one requiring special skill and training. In nearly every form of tubercle, and in pus proceeding from tubercle, the characteristic bacteridia had been found, and so far the evidence in favour of Koch's views was strongly confirmatory. We were much indebted to Dr. Kidd for having subjected this question to the most careful and painstaking research. The point was no doubt too important to pass over merely on the *ipse dixit* of one man, however great. About fifteen or sixteen years ago Dr. Hermann Weber, in speaking of the effects of cold climates on phthisis, had suggested the notion of the dependence of the disease on germs, and this paper of Dr. Weber antedated Villemin's experiments. The failure to find bacteridia in some cases would not destroy the phthisical nature of the disease, for one would not expect to find the active agent in all cases. Leyden had pointed out that the fallacies of the histology of the sputa in relation to the bacilli were more numerous than surrounded the older methods of investigation. Tubercle was an inoculable disease, and almost nothing else is so inoculable as it. The experiments of Cheyne and Dawson Williams proved that tuberculosis could only be obtained by the inoculation of specific material. Diseases which were due to bacteridia were for the most part contagious, but it would be a grave step to assert that tubercle also was contagious. Inhalations of pulverised tubercle in a densely crowded atmosphere gave experimental proof of the contagiousness of tubercle, but the evidence of the proof that tubercle was contagious in man was of the most difficult kind. Dr. Reginald Thompson had concluded from experience at the Consumption Hospital that about one case in a thousand had possibly received its disease from contagion. The collective investigation under the direction of the late Dr. Burney Yeo gave out of 1078 returns 262 as possible cases of contagion. Dr. Fox was surprised that so many gentlemen had returned it in the negative; of the whole number of cases there were but twenty in which there was no personal relationship between the cases concerned, or in which they had not lived under the same conditions. Bowditch, Buchanan, and Simon had shown that many unhealthy conditions in life are followed by the development of phthisis. We ought to feel indebted to Dr. Creighton for his criticism of Koch's method. Although the evidence in favour of Koch's views was so strong, yet, looking to the constant change in our views of phthisis, and seeing how the pathology of tuberculosis has biennially, triennially, or quinquennially been swayed by histological dogmata, it would be well if we waited before definitely accepting all that the new views implied. Who could tell but that in a few years we should hear expressions in terms which at present we cannot foreshadow? It should be remembered that the bacteridia of tubercle depended for their detection on one of the most uncertain of chemical agents, an aniline dye.

Dr. MOXON said he hesitated very much in venturing before the Society. The question before us was the most important question which had been placed before this Society during the present century. He had long held the view that all phthisis was the same disease, and had done so from anatomical considerations; he had long observed that tubercle was always spherical, and thought there must be some reason for this; he had compared them to fairy rings; in masses of tuberculous growth the periphery was living and the centre dead. He did not mean much by the term fairy ring; it was almost poetical. He believed that we had now revealed the cause of the factor which makes phthisis one and the same thing. Twelve years ago this very question was raised at another Society, and Dr. Wilson Fox had shown that of all the kinds of phthisis the histology was identical; though, as he understood him, Dr. Fox hesitated to allow that, pathologically also, the different kinds were due to one and the same process. From a constant and close system of observation, in which the purulent expectoration was carefully examined, he had come to believe that Koch's view was right. In cases of capillary bronchitis the sputa contained no baccili; and in three cases of gangrenous lung which ran a chronic course the sputa revealed no bacillus. Not always in every case of phthisis will bacillus be found. The life of a tubercle is not the history of a phthisic. Three months was about the duration of the life of a tubercle; whereas that of a phthisic may be twenty years. Probably fibroid phthisis must be four or five years old at least. He had come to the conclusion that phthisis was a compendium of every disease in pulmonary pathology excluding cancer and including embolism. He next spoke of the fact that pregnancy disfavours phthisis, as did also heart disease, and, in fact, all venous conditions. Hence it was that tubercle did not exist, as a rule, in the region of the Pacchionian bodies, and that they never occurred in the liver. When we considered the delicate favourable conditions required for the growth of the bacilli, we could explain much. The life of a parasite is not so easy as it seems at first sight to be; even the aphis of a rose does not live in a westerly wind; and so, though we might catch tubercle bacilli at every moment, yet a favourable soil might be wanting. A good sister in the ward of a hospital, characterised for great practical ability (Miss Pollock), had conducted a series of observations, and had proved herself extremely skilful in the preparation of specimens. It would be well if we had some central authority to act as a referee, to whom specimens might be sent by busy practitioners, and where they might be hall-marked if the specimen contained bacilli. It had been said that small-pox devours in the blood a substance necessary for its growth, and after this material had been used up the individual was unable to again go through that process. He suggested that after vaccination of a sheep with the modified virus of charbon, in order to prove the point, it would be possible to kill that sheep and make an extract of it to see if the extract would afford any food for the growth of the charbon bacillus. With regard to the use of antiseptic agents in phthisis, he said that he had soaked a patient with iodoform, and though the right lung only was affected, yet the left lung burst into the most violent signs of consumption under this treatment. The vitality of bacilli probably depended on the fact that they were individual particles of protoplasm, whereas in a complex organism the parts were sustained one by another, and there existed a coordination of action.

Mr. WATSON CHEYNE said that with regard to the bacilli he had not much to add to what he had already recorded in his published work. The exact relation of the bacillus to the tubercle itself was important. The epithelioid cells were perhaps the most important histological elements; their nuclei were larger and more granular and less deeply stained than other parts. It was in these epithelioid cells that tubercle bacilli had been found, and generally nowhere else. He had traced the development of these cells into giant cells, which were known to contain large quantities of carbon. In cases of fibroid phthisis one never finds them in fibrous tissue, but he used a low power first to detect epithelioid or caseating cells, and then the bacilli could be discovered. With regard to caseation, he was sceptical of the view that it was due to deprivation of blood. The epithelioid cell caseates, and may it not be the bacilli which cause caseation? How do they act in producing the changes? He thought it was a chemical action. (Photographs were shown in illustration; in one a dark mass of micrococci was seen in the centre, and around this a clear ring with no staining—dead tissues do not stain,—and round this a third ring of inflammatory cells.) It was easy to interpret these changes; the micrococci in the centre evolved a chemical poison, and, in a concentrated form, it had killed the tissue in the immediate vicinity, whereas further outside it merely acted injuriously on cells and excited inflammation. The course of events in phthisis was probably as follows: Some bacilli are inhaled by a predisposed person, or one in a fit state for the development of the bacilli. Then hypertrophy and multiplication of the epithelioid cells take place, a production of poisonous chemical substances occurs, and the cells succumb to the increasing amount of irritation; the giant-cells may ultimately overcome the bacilli; the inflammation that occurs around this centre aids in the spread of the process. The formation of this chemical poison probably accounts for some of the other symptoms, such as the fever and wasting of phthisis. With regard to the criticism of Koch's method by Dr. Creighton, he would attend to four points in the cultivation of the tubercle bacillus. He would not follow Dr. Creighton in the personal mode of questioning Koch's accuracy which had been adopted, for Koch did not require any defence from him. He should prove that Koch had not departed from the original principle of cultivation in dry media; that he had separated bacilli from tubercular matter; that in fluid media we have not a good method for cultivating bacilli. Koch had not departed from the original method of cultivation in solid media, for by this method it was possible to conduct pure cultivations through any number of generations. The accidental falling in of

micrococci from the air was more likely to happen and to vitiate cultivation in fluid media; whereas in the solid media the two organisms would grow together, and their distinction would be perfectly easy. If a micrococcus fell in from the air, it would only grow where it fell, and so the cultivations were pure. (Specimens of pure cultivations on solid media were handed round.) In the tubercle itself the bacilli were readily distinguished, and the problem was how to get and carry on the pure cultivation of bacilli, and in the method now used by Koch there was no departure whatever from the original principle. We could prove that the bacillus alone was present by its peculiar chemical reaction with the aniline dyes. It was necessary to use solid media, and coagulated blood serum answered the purpose best, as it had to be solid at ordinary temperatures. The method was as follows. A rabbit was inoculated with tubercle on the back, and six weeks later it was killed in a state of tuberculosis. Some prepared sterilised blood-serum should be at hand. The animal being killed, then wash the abdomen with 1 in 1000 solution of corrosive sublimate, and heat all knives, scissors, and forceps used in dissecting and excising portions of tubercle. Having inoculated a solid medium with the excised tubercle, the tubes are put in an incubator, and after eight or ten days a whitish dryish-looking substance, which breaks into bits, crust-like growths, form on the surface of the serum; if a particle of this crust-like material be inoculated on another test-tube containing the same solid medium the growth is much more luxuriant, for the reason that the bacilli are more perfectly distributed. (Specimens of the bacilli growing in coagulated blood serum were shown.) Speaking of these crusts, Mr. Cheyne said that it was easy to prove that they consisted of tubercle bacilli and nothing else, for by employing Ehrlich's method of first staining with fuchsin and afterwards with methylene blue, it was found that the crusts consisted of nothing else than bacilli, for not a patch or particle of blue was to be seen with an oil immersion lens; there was no other organism and no other material. As to growths in fluid media being better, he had worked for years with fluid media, and believed at last that he had found a medium more certain than any other, when he confessed that Koch's dry method had rendered all his work futile, and he had to become an adherent of the solid method. Long before Schiller's experiments he had worked with fluid media; he had inoculated various infusions with tubercle, and in no single instance did he obtain any development of the bacilli; the fluid remained perfectly clear. If a cheesy gland were used a slight development might take place. If the bacilli do not develop in fluid media, then Dr. Creighton's argument fell to the ground. Bacilli grow away from the tubercle, and so there was no tubercle after the very first generation, for the crusts of the first generation were nothing but bacilli. Moreover, if one rabbit be inoculated with tubercle and another with bacilli from the "crusts" alone, the latter would be far advanced in tuberculosis before the other showed much change. He did not object to criticism, but Dr. Creighton had totally misrepresented Koch.

Dr. WILSON FOX said that Dr. Moxon had misunderstood him, for he had all along believed in the pathological unity of phthisis. With regard to his remarks on Dr. Creighton's criticism of Koch's work, he confessed that he had not noticed that there was any imputation of want of faith.

CLINICAL SOCIETY OF LONDON.

Lesions of the Frontal Lobes.—Recurrent Hæmatemesis, with Urticaria.

THE annual general meeting of this Society was held on January 9th, Sir Andrew Clark, President, in the chair. The President announced that the following gentlemen had been elected to serve on the committee to inquire into the nature of the various specimens of Charcot's disease recently brought before the Society:—Sir James Paget, chairman; Mr. Morrant Baker, Dr. Dyce Duckworth, Mr. T. Smith, Mr. Warrington Haward, Dr. Barlow, Dr. Andrew, Dr. Buzzard.

Dr. HALE WHITE read a paper on Lesions of the Frontal Lobes. The first case brought forward was that of a woman, aged twenty-six, who was admitted into Guy's for severe headache. There was a history of injury to the head eight years previously. She had been ill a month with occasional loss of sight, and during this time she was twice sick, but her whole illness had been so slight, and she had been so well able to walk about and perform all the duties of life that neither her friends nor her doctor thought that anything serious was the matter with her. On admission the only symptom to be detected was optic neuritis, and she complained of nothing but intense headache. One day after she had been in the hospital about a month, being very tired with walking about all day, and having a severe headache, she went to bed early, and was soon after found dead in her bed. At the post-mortem examination a large glioma of the frontal lobe was discovered. It did not extend far enough back to implicate either the motor area or the island of Reil. The rest of the brain was absolutely healthy. The second case was that of a woman, aged thirty-one, who suffered from aortic disease; she also had paralysis of the left arm and leg, but there were many signs showing that this was not due to organic lesion, but was probably functional; this paralysis soon recovered, and the patient was well able to walk about the ward and use her hand. After she had been in about two months, whilst in the watercloset she had an epileptiform convulsion, was cyanosed, frothed at the mouth, and was insensible. On coming round she vomited excessively; in a few days she quite regained her former condition, but about two months afterwards her cardiac symptoms became worse, and she gradually sank and died. At the autopsy severe aortic and mitral disease were discovered with infarcts in the kidney and spleen; a black-coloured clot was found situated in the white matter of the right frontal lobe. It implicated slightly the gyrus fornicatus, but did not extend into the ventricles or affect the motor region of the brain. It was pointed out that the great interest of these cases lay in the paucity of the symptoms produced by the lesions of the frontal lobe, for in neither case were there any motor, sensory, or intellectual symptoms referable to the disease of the brain; in fact, in the second case the hæmorrhage was not even suspected, nor would the tumour with any certainty have been diagnosed in the first case but for the optic neuritis. Although the frontal lobes are generally looked upon as presiding over the intellectual faculties of the individual, from these and many other cases it is proved to be possible for one of them to be seriously influenced without any impairment of such faculties. The author enunciated it as a law that the later in the animal series or the life of the individual any faculties were developed, the more readily, in cases of injury of the brain, was some other part capable of taking on the work. Thus, motion of the leg and arm of one side, when destroyed by lesion of the opposite side of the brain, was slowly recoverable, because the faculty of motion had been so long formed as to become quite fixed in the motor areas on either side of the fissure of Rolando; whilst motions of the face as used in gestures, being later formed, were not so definitely fixed, and therefore either some bilaterally associated part near, or the sound side, was capable of taking on the duty of the injured part, and thus the face in ordinary hemiplegia recovered comparatively quickly. Coming to faculty for connecting words with signs, which was still more lately formed; here the uninjured side was quickly capable of taking up the function of the injured one; whilst in cases of lesion of the frontal lobe destroying functions so lately formed as the intellectual, the opposite side so quickly took up the work of the damaged side that no impairment was detected. The author was inclined to think that the recently acquired capabilities, such as the intellectual, were stored up on both sides of the brain; in the course of many generations these became more fixed to one side, so that then it would take some time for the functions of one side to be taken up by the other, whilst later functions were taken up at once by the sound side. The extent of injury in his first case seemed to negative the possibility of the bilaterally acting centre theory being true for intellectual faculties.—Dr. MOXON thought that it was not sufficiently recognised that people with brain tumours sometimes die suddenly. A consideration to which he had drawn attention in his Croonian Lectures, though it had been very much buried was nevertheless still believed in by him and was of great interest. The pneumogastric nerve, of all the cranial and spinal nerves, runs the shortest and straightest course from its origin to its escape from the dura mater. It forms, as it were, the central nerve of the whole system. Above it all nerves incline upwards or forwards to their exit; below it all incline more or less downwards. An anatomical feature of the fourth ventricle, which seems to be lost sight of, is the sort of lateral pouch which is stuffed very full of tufts of bloodvessels in the form of choroid plexus. This stuffed pouch reaches down and presses upon the pneumogastric nerve-roots, and an extra pressure from overfulness of this tuft may be an explanation of some

cases of sudden death from brain tumour.—Mr. VICTOR HORSLEY said that the absence of symptoms in Dr. White's interesting cases afforded a proof that in all psychical acts in which the attention is fully occupied both hemispheres are engaged, consequently that such ideas are bilaterally represented in the cerebral cortex. He believed that he has been able to prove this experimentally by the following method. If one attempts to draw simultaneously a triangle with one hand and a circle with the other, the result will invariably be that neither figure will be drawn correctly, both hands describing a fusion of the circle and triangle. Hence, he argued, the hemispheres are incapable of acting simultaneously when each is actuated by a separate idea upon which the attention is fully set. Supposing this view to be correct, it follows that since both hemispheres are occupied in any given idea, it would be stereotyped in both, and hence the destruction of one would not cause a loss of function obvious to untrained observers. Besides, tumours exert their destructive influence so very gradually as to readily admit of the opposite hemisphere rapidly assuming the lost function. A further point of interest lies in the possible function of the frontal lobes. In all cases of severe destructive lesions of this region Mr. Horsley had found that there was a consequent change in the emotional character of the patient. He protested against cases of injury to the frontal lobes in children being brought forward in support of the opposite view, holding, as he did, that the emotions of a child were very immature until the various functions, especially the sexual feelings, had been developed. The same argument applied to experiments on the lower animals.—Sir ANDREW CLARK said that there were two works of ancient order which might well be consulted on the question of injury and disease of the brain. Dr. Abercrombie of Edinburgh and Baron Larry had left behind them valuable records.—Dr. HUGHES BENNETT considered that when tumours grew in a very slow manner there might be no symptoms. But when the history of the case showed that there were no symptoms, was that sufficient evidence that no symptons really existed? When the motor regions were involved the symptoms were objective and apparent; now, symptoms might exist when other regions were affected, and yet special care would be required to elicit mental alterations. The "American crow-bar" was referred to as showing that some mental changes do occur after injury to the frontal lobe.—Mr. VICTOR HORSLEY remarked that in this celebrated case the man lost his affection for his fellow creatures, a fact which also supported the theory he had advanced.—Dr. FREDERICK TAYLOR referred to some cases which would bear out Mr. Horsley's suggestions. In one instance the patient had a tumour the size of a hen's egg, situate in the frontal region. The tumour was operated on by Mr. Birkett, but as it seemed to grow deeply the operation was not completed. This patient was troublesome, talkative, and made improper and indecent remarks to the students towards the end of her life. Post-mortem examination showed an abscess in each frontal lobe. Another case was referred to of a similar kind, and there was a surgical affection of the frontal lobes. A case was now under observation in which the frontal lobe of the brain was probably involved in a girl aged ten years; there was a curious mental condition, the child was more childish than usual, but it was difficult to say whether this was really abnormal.—Dr. SEYMOUR TAYLOR spoke of the possibility of two mental acts being performed at the same time. It was a matter of education, as could not be doubted when watching the movements of skilled artisans and telegraph clerks who performed two intellectual actions at once. It was common for some musicians to read and play music of which the bass clef was written in one time and the treble clef in another. Chopin was remarkable for these modes of thought. Again, weavers make many complicated movements at one time, and may even perform triangular and circular movements at the same moment. Infants at birth were pictures of a lively emotional display, and so he could not agree that the emotions were a late acquirement.—Dr. HALE WHITE, in reply, thanked Dr. Moxon for his suggestion as to the cause of the sudden death, but even then it was difficult to say what was the determining cause of the death at a particular moment. In his first case it was clear that the higher affections were not lost in any degree. He still held that the expression of the emotions were lately acquired, for it required actors and orators to give character to special emotional features by means of the expression put on the face. Tumours growing slowly in other parts of the brain do produce symptoms, and so he did not concur with Dr. Hughes Bennett's remarks.

Dr. J. J. PRINGLE described a case of Recurrent Hæmatemesis with Urticaria in a gentleman, aged fifty-one, with no family history of gout, hæmophilia, or other disorder. In 1872 he had two attacks of ordinary nettlerash, attributed to indiscretions of diet. In 1878 he had several attacks of severe nettlerash with great prostration. In 1879 these recurred with increasing frequency and severity, the tongue, mouth, and fauces being involved, and clear, watery fluid being vomited. In the latter part of the year small quantities of altered blood were also ejected. During 1880 the patient was never free from urticaria or its subjective symptoms, and at intervals of about two months attacks of great severity occurred, during which vomiting often lasted twenty-four hours at a time, large quantities of pure red blood being ejected. These attacks diminished in frequency, but continued to increase in intensity in 1881 and 1882, culminating in November of the latter year in an attack in which the blood vomited filled two hand-basins besides saturating the bed. The next attack occurred in April, 1883, and its latter part was witnessed by the writer, kindly accompanied by Dr. Wilks and by Dr. Hurd-Wood, of Leatherhead, who had watched the case from its commencement. Bright-pink urticarial wheals, nowhere purpuric, were thickly studded over the trunk and extremities; the blood vomited filled a large hand-basin; the patient's general condition was such as may be inferred from the loss of blood and the free use of morphia subcutaneously, which had been found the only means of use in allaying sickness. Recovery ensued as usual, the patient always recuperating with amazing rapidity. Shortly afterwards he had two unequivocal attacks of gout affecting the right foot and left hand respectively; the subsequent attacks have been less frequent and less severe, and apparently controlled by subcutaneous injections of morphia and ergotin, used as soon as the nettlerash appeared and nausea was felt. Three days after one of these arrested attacks a copious tarry motion was passed, and in another attack, in which a little altered blood had been vomited before the injections were used, all gastric symptoms were immediately allayed, although copious crops of nettlerash made their appearance for three days. Previous to some of the attacks there have been evidences of hepatic derangement. The immediate exciting cause in almost every instance had been exposure to cold, to which the patient was formerly very susceptible. In the intervals he is free from pain and all other symptoms of gastric disorder or ulcer. The liver and spleen are of normal size both during and between the attacks. The urine passed during the attacks had never contained blood; in the intervals its specific gravity ranges from 1020-1025; it is often loaded with urates, and invariably contains a large excess of uric acid; it is free from albumen, sugar, and casts. The radial pulse is hard, tracings from it being flat-topped. There is no decided cardiac hypertrophy; the second sound over the aortic area is accentuated; the fundus in both eyes is normal. Minute doubtful tophi have appeared in the right ear within the last six months. From the absence of all symptoms of gastric ulcer, except the vomiting of blood or other causes of hæmatemesis, and from a general consideration of all the features of the case, the writer expressed himself as forced to the conclusion that the hæmatemesis was due to capillary rupture, occurring when the gastric mucous membrane was in an urticarial condition. Presuming the possibility of such a condition, he considered that the great vascularity of the organ and the position of its rich capillary network, separated from its cavity only by a delicate membrane and a single layer of cells, account for the occurrence of hæmorrhage and for its amount. No exactly similar cases have been described; but Murchison mentions the case of a boy of nine years of age with urticaria tuberosa and purpura urticans, and with hæmorrhage from the bowels, kidneys, and urinary passages, and with the discharge of much lithic acid in the urine. Cases described by Graves as "exanthema hæmorrhagicum" present also certain points of similarity. The relationship between hepatic disorder, the gouty condition, and skin eruptions in general was merely referred to.—Sir ANDREW CLARK was much interested in the paper. Some years ago he publicly refused to accept the spasmodic theory of asthma, believing the affection to be a sort of urticaria of the bronchial mucous membrane. Many asthmatical patients were subject to urticaria, and other mem-

bers of the family suffered from urticaria. In the nasal mucous membrane, in cases of hay asthma, appearances very much like those that Dr. Pringle described could be seen. Dermatological treatises were singularly deficient in their account of eruptions affecting mucous membranes. The occurrence of eczema on mucous membranes of the stomach and elsewhere is frequent, and is overlooked in works on dermatology.—Dr. STEPHEN MACKENZIE believed that the views advanced by Dr. Pringle were sound. The association of urticaria with hæmatemesis had some resemblance to the association of urticaria with paroxysmal hæmoglobinuria. Urticaria, and the passage of blood-colouring matter in the urine, followed on exposure to cold, and might occur in one and the same patient, as he had shown. Dr. PAVY believed that a vaso-motor condition was at the foundation of paroxysmal hæmoglobinuria, just as urticaria had a similar basis. The pathology of urticaria really explained the whole case. There was first spasmodic contraction of the vessels, followed by paralytic dilatation with exudation of fluid, and even occasionally of blood-corpuscles, as was seen in cases of purpuric urticaria. Imagine the same set of changes occurring in the glomeruli of the kidney, where the blood was injuriously compressed and the hæmoglobin expressed from the corpuscles, and the pathology of paroxysmal hæmoglobinuria is laid bare. A case was quoted to show that herpes may occur on the mucous membranes of the mouth and œsophagus in conjunction with herpes of the skin about the mouth. The influence of the nervous system in determining such lesions appeared to him to be by no means far-fetched.—Dr. WILBERFORCE SMITH inquired into the duration of the illness from which the patient suffered whilst in India.—Dr. PRINGLE, in reply, said that the man suffered only fourteen days out of seven years, and the dysentery and ague with which he was affected were both included in that period. Geneau de Mussy had spoken of "endanthemes" as opposed to exanthems; and Leube, writing in Kaposi's "Hautkrankheiten," held views similar to those of Dr. Stephen Mackenzie on herpes.

The following living specimens were shown:—Mr. Bernard Roth: a case of Hydrocephalus in a boy aged sixteen, who could not stand alone. Mr. Rickman J. Godlee: a case of Severe Wound of the Wrist, ending in recovery with movable joint.

MEDICAL SOCIETY OF LONDON.

Comma Bacilli of Koch, Finkler, and Prior.—Aphasia without Lesion of Broca's Convolution.

AN ordinary meeting of this Society was held on Monday last, Mr. Arthur E. Durham, F.R.C.S., President, in the chair. The proceedings were more than ordinarily interesting.

Dr. G. HERON showed specimens of the Comma Bacillus, described by Koch as occurring in cholera, and of the comma bacillus found by Finkler and Prior in the stools of cholera nostras, thirteen or fourteen days old. He said that he had no intention of discussing the causal connexion between the comma bacillus of Koch and cholera, but proposed to deal merely with certain peculiarities of the two varieties of bacilli referred to. The comma bacillus of Finkler and Prior was associated with decomposition, and its cultivations evolved a slight putrefactive odour; it closely resembled Koch's comma bacillus when seen under the microscope, but much importance could not be attached to such a resemblance. When planted on nutritive beef jelly both organisms grew and multiplied, but in a very different way. At ordinary temperatures, 60° F., the bacillus of Finkler and Prior grew with great rapidity, producing an appearance, on or about the second or third day, which was characteristic; the gelatine in the neighbourhood of the puncture made by the inoculating wire was liquefied and permeated by a homogeneous opaque growth, having the appearance somewhat resembling the finger of a glove, or, as had been said, the toe of a stocking pushed into the gelatine. The bacillus of Koch grew very much less rapidly under the same conditions. On the third and fourth days the track of the inoculating wire was marked only by a thin line of scattered points at which the comma bacillus was slowly growing. The differences in the mode of growth were constant, and afforded a means of distinguishing between the two organisms. When sown on potatoes the bacillus of Finkler and Prior grew with great rapidity, but the bacillus of Koch developed only very slightly. The specimens shown illustrated these points of difference in a very striking manner. These peculiarities of growth were not in accord with the statement made by the English Cholera Commission.—Dr. COUPLAND thought we could now thoroughly understand Koch's position. Dr. Heron had not mentioned that Finkler and Prior believed that their bacillus was the cause of simple cholera or cholera nostras, and hence we might infer that Asiatic cholera and cholera nostras were probably of the same nature. He considered it certain that these organisms were of very different nature. He paid a tribute to Koch's scientific accuracy and caution.—Dr. HERON briefly replied, concurring in the remarks of Dr. Coupland that Koch was a man who used the utmost care in carrying out his experiments.

Dr. SAMUEL WEST read a paper on a case of Aphasia in which the chief lesion was situate in the supramarginal and angular gyri, Broca's convolution being healthy. A man aged sixty-six came under treatment for bronchitis, with weak heart and granular kidneys. While in the hospital he became suddenly aphasic, but did not lose consciousness, nor was his general condition otherwise affected. In addition to the aphasia the patient had some loss of power in the right side of the face, in the right arm and leg, and also incomplete hæmianæsthesia. The patient retained certain words in common use, such as "good morning," "yes," "order," "corner," "one or two with it," which he was in the habit of using in his occupation of carrier. When he attempted to say more than this he broke into an unintelligible gibberish; occasionally he would say "I can't," "I couldn't," as if to express his sense of inability to express himself. He could not name visible objects, though he understood their use, and would take them in his hand and perform certain movements upon paper as if wishing to write, though nothing intelligible was produced. He could not read printing nor manuscript, though he held the paper the right way up. He misunderstood most that was said to him, and would perform certain acts when told to do so; it was evident that he understood simple questions; occasionally he could speak words spoken to him (parrot speech). His powers in all the above respects varied greatly at different times. Death ensued from exhaustion six weeks after the onset of the aphasia. At the autopsy granular kidneys were found; the heart was dilated and fatty, and there were signs of bronchitis. In the brain a large area of softening was found in the region of the supramarginal and angular gyri; Broca's convolution was intact. The softening extended through the whole depth of the convolution into the centre of the supramarginal gyrus, but elsewhere was not so deep. On section the alteration was found to have extended into the root of the ascending parietal convolution, and to have involved also the deeper portions of the ascending parietal convolution in direct continuity with the supramarginal convolution, as well as the superior temporo-sphenoidal convolution in immediate proximity to the fissure of Sylvius. The island of Reil was affected throughout its whole extent, but the external and internal capsule had completely escaped. The cause of the softening was clearly plugging of the branch of the Sylvian artery, which is distributed to the parts affected. The clinical symptoms were those of the amnesic and not of the ataxic form of aphasia, and are in perfect accord with the pathological lesion. The visual centre was most affected, and this is placed in the supramarginal and angular gyri where the lesion was most extensive. The auditory centre was affected but to a much less degree, and the arm, leg, and face centres were also damaged. The hemianæsthesia seemed not to be accounted for. The lesion of the island of Reil could not be associated with any definite symptoms. The entire case was in complete accord with the present doctrine of cerebral localisation.—Dr. BROADBENT said that the case had been most carefully and completely described. The only criticism he should offer on the case was as to its name. Aphasia should be restricted to the motor affections of speech, and amnesia to the disturbances on the sensory side of language. He had seen several cases, and some in which the loss of apprehension was more complete than in Dr. West's case. The motor conjunctions were completely spared; there was transient hemiplegia, but persistent right hemianæsthesia. The patient spoke the most complete gibberish, but with such appropriate gesture that it was evident he understood. Sometimes, under great excitement, a whole phrase would slip out. Besides such complete loss of apprehension he had seen a great many cases of minor affection. A case was

narrated in which a man talked intelligently, and held a conversation without the slightest slip, but he could not name a single object at sight; he was unable to read; he could recognise his own signature at sight; he could write letters perfectly well. In this case there was a hæmorrhage lying immediately beneath the angular gyrus. The term "word blindness" is inadequate, for in every such case there was loss of power of naming at sight. In these instances there was a breach of communication between the visual perceptive centres and those centres where the auditory perception corresponding to it was located—viz., its name. Intelligent reading was impossible without the faculty of naming objects at sight. Another case was mentioned in which it was supposed that a lesion existed about the angular gyrus of the right side; disturbances occasionally took place around this focus, at one time causing aphasia with right hemiplegia and lateral deviation of the eyes to the left. He had seen cases of word deafness in which the patients did not understand what was said to them; these patients sometimes answered in gibberish, at others, reply to a question would be utterly inappropriate. Other cases of aphasia and amnesia were also detailed.—Dr. S. WEST briefly replied.

OPHTHALMOLOGICAL SOCIETY.

New Ophthalmoscopes.—Influence of Vapours of Bisulphide of Carbon and of Chloride of Sulphur on the Vision and General Health.—Cocainised Eye.

AN ordinary meeting of this Society was held on Jan. 8th, Mr. Shadford Walker of Liverpool, Vice-President, in the chair.

The Hon. Sec., Dr. BRAILEY, read a communication from the Local Government Board relating to the Code of Suggestions drawn up by the Special Committee of the Ophthalmological Society, with a view to the prevention of blindness from ophthalmia neonatorum, and which code has been sent to the Local Government Board for its approval and adoption. The letter said that the code of rules had been forwarded to the Registrar-General, who replied by saying that it was not to be expected that the registrars of births would perform any extra duty without adequate compensation. If this compensation were fixed at 2*d.* for each card read and presented, the cost would amount to £7300 per annum. In many cases it was not the mother who registered the birth, and if instructions were given for purulent ophthalmia, why not for all the other diseases to which infants are liable? The whole scheme was impracticable. As to the relieving officers, the Local Government Board said that their labours were already sufficiently arduous.—On the motion of Dr. STEPHEN MACKENZIE, seconded by Mr. SYMPSON, it was resolved that the deputation which waited on the Local Government Board should be appointed as a Special Committee to consider what should be done in respect of the above communication.

Mr. F. R. CROSS of Bristol showed a specimen of Cystic Tumour of Iris in a woman aged thirty. It was the size of a pea, and protruded into the anterior chamber, pushing up the iris, to which it was attached. She had first noticed something wrong with her eye two years and nine months earlier, when she believed a foreign body had been blown into her eye; this was followed by some irritation of the eye, and a small spot was noticed; this spot enlarged and attained the size of a pea, but after a year subsided to the size of a pin's head, and again enlarged to its present size.

Mr. R. MARCUS GUNN showed a new Ophthalmoscope with a thumb movement of the discs and a strong flat handle. The flat handle was utilised as a pupilometer and a measuring scale. At the end was an aperture useful in testing for central colour scotoma. The thumb movement gives increased steadiness and uniformity.

Mr. STANFORD MORTON exhibited an Improved Student's Ophthalmoscope, which had been constructed for him by Messrs. Pickard and Curry. It combines the various improvements of several ophthalmoscopes. For all ordinary purposes it has only a single series of lenses, but four extra lenses, easily adjustable, are provided for special occasions. The numbers of the lenses are fully exposed on a dial plate, so that the position of any required lens is at once manifest and the lens at the sight hole is always indicated at the same aperture. There are two mirrors (one fixed at an angle), either of which can be instantly turned into position. The instrument is an inch and a quarter wide, and there is only one driving wheel, which, being three inches below the sight hole, is not impeded in its action by the face of either patient or observer. The ophthalmoscope balances well in the hand, is light, and packs into a small compass.

Mr. J. COUPER showed a new Refraction Ophthalmoscope. Last year a refraction ophthalmoscope on a new principle was submitted to the Society. Discs, combinations of lenses, and multiple refraction were dispensed with in it. Single lenses, of which there were seventy-two, were alone used. One mirror with diametral hinge was made to serve for both direct and indirect examination, as well as for retinoscopy. The object was to simplify the mechanism and increase the optical efficiency of the ophthalmoscope. The chief faults of the instrument in its original form were:—(1) Its bulk; (2) the slow propulsion of the lenses; (3) the effort required to turn the driving wheel; (4) uncertainty in reading the index wheel, from the circumstance that the shutter as well as the mirror must be shifted from side to side by hand, in order to make the figure and the lens at the sight hole correspond. If the mirror were shifted without the shutter the index read false. New instruments were placed in comparison with the old to show how far these defects have been lessened. In the most recent the index wheel becomes the driving wheel (coarse adjustment). One revolution of it brings each of the seventy-two lenses in turn to the sight hole, and a half turn suffices to go from the lowest to the highest lens of either series. Even with this wheel the lenses are readily centred at the sight hole. A fine adjustment wheel has been added, however, to give a slower, lighter movement, which is found convenient towards the close of an examination. Only one figure at a time appears at the aperture of the shutter, and the latter follows the movements of the mirror automatically; a false reading thus becomes impossible. For those who are satisfied with fewer than seventy-two lenses, a thirty-six lens instrument has been provided.

Mr. WM. LANG showed a Modification of Purvis's Original Instrument, made by Messrs. Ferrier and Watson. Two discs carrying the lenses were moved by milled wheels which were conveniently placed; by a simple combination it can produce from −1 to −29 and from +1 to +29. He also showed a Pupilometer consisting of a plate fixed at the back of an ordinary retinoscopy mirror.—Mr. COUPER doubted the desirability of having two mirrors attached to an ophthalmoscope, and preferred a very small sight hole and a mirror of long focal distance.—Mr. STANFORD MORTON thought the best illumination was obtained with a mirror of nine or ten inches focal length.—Mr. JOHNSON preferred a mirror of focal length of four or five inches for direct examination, and a special mirror with a focal length of about nine inches for keratoscopy.

Dr. W. A. BRAILEY showed Microscopic Specimens of the Condition of the Ciliary Nerve in a case of Sympathetic Disease. The left (sympathising) eye was excised on account of loss of sight, severe inflammation, and pain. The right (exciting) eye was operated on for cataract eleven months ago. Four months later opaque membrane was needled; five months later the left eye was found to be quite blind from iritis, presumably sympathetic. The long ciliary nerve and artery are perfectly normal. A section was shown of a perfectly normal long ciliary nerve and artery of an eye which had been excised on account of exciting sympathetic uveitis; the eye was injured thirteen weeks ago; the adjacent choroid was in a state of severe inflammation.

Dr. W. A. BRAILEY also exhibited Microscopic Specimens of an Exceptional Condition of the Ciliary Nerves in three cases of Uveitis. One section showed inflammation round the internal long ciliary artery extending into the contiguous portion of the corresponding long ciliary nerves. The eye was excised on account of iritis, with recurring tension, one month after the extraction of the cataract from a glaucomatous eye. The second section was very similar; it was taken from a case of iritis following an iridectomy; the other eye was sympathetically irritated. The third section showed severe neuritis of the long internal ciliary in an eye due to severe irido-choroiditis of spontaneous origin.

Mr. NETTLESHIP exhibited a patient with Universal Detachment of the Retina from the edge of the Optic Disc forwards in all directions as far as could be seen; the greater part of the retina remained transparent; at the fovea centralis the retina was hypermetropic seven or eight dioptrics, the physiological cup of the optic disc was slightly

myopic. The patient had good perception of light, and with + 8 D. or + 18 D. he could count fingers and see letters in 20 Jaeger. The vision and refraction of the right eye were normal. The patient was a teacher, aged seventeen; divergent squint of the left eye had been noticed for about eight years, and about that time he had a blow on the head; there was no evidence beyond this to show when the detachment occurred.

Mr. HARTRIDGE showed a case and a water-colour drawing by Mr. Morton of Opaque Nerve Fibres completely encircling the disc and extending for a long way over the fundus of the right eye. There was considerable myopia.

Mr. JESSOP showed specimens of Tubercle Bacilli growing in blood-serum and in the iris of the rabbit.

Mr. F. R. CROSS of Bristol exhibited a case of Symmetrical Dislocation of Lenses upwards of congenital origin. The patient was eight years of age. Each eye was practically similar. The iris was tremulous, and the lower edge of the lens appeared just below the upper edge of the pupil. The ophthalmoscope showed a double image of the optic disc. Under the use of atropine the edge of the lens was distinctly seen to cross the pupil.

Dr. W. A. BRAILEY showed a living specimen of Hyphæma. A month ago she had in the left eye hyphæma with varying tension and slight iritis, all these symptoms being of about three months' standing only. Before that there were large floating opacities, probably blood, in the vitreous, with great pain round the eye and in the forehead. The right eye had its pupil occluded and excluded, with shallow anterior chamber. Both supra-trochlear nerves had been recently stretched, with some relief to the pain. On Dec. 15th the iritis in the left eye became worse and the anterior chamber deeper, till now it is of enormous depth, but symmetrically so. The aqueous humour is clear. There is a greyish hazy reflex from behind the pupil. On Dec. 18th the right eye had a slight attack of a similar nature—i.e., its anterior chamber became deeper with ciliary injection. Thus was revealed the existence of six marginal anterior synechiæ. In a week the right eye regained its former condition, but the left eye still has enormously deep anterior chamber, with the other symptoms mentioned. The disease began in the right eye two years and a half ago, and in the left eye eighteen months ago. In this eye there were then films in the vitreous with failing sight and severe pains round the eye, but no other direct evidence of inflammation. The right eye was as at present. The author asked—1. What is the nature of the uveitis? 2. What is the cause of the increased depth of the anterior chamber and the varying tension?

Another patient was shown, who had had a blow on the left eye with a nail five months ago; since then there had developed diminished tension with defective vision. Now there was a small superficial corneal opacity with shallow anterior chamber, and a patch of slight opacity on the posterior surface of the lens.

Mr. ADAMS FROST read the report of the Committee on Poisoning by Bisulphide of Carbon and Chloride of Sulphur, signed by himself, Mr. Gunn, and Mr. Nettleship. The affection, they said, had long been recognised in France, and had been well described by Dr. A. Delpech, who grouped the symptoms into two stages—namely, a stage of excitement and a stage of depression. The affection had also been described in this country by Dr. Alexander Bruce. It appeared that there were only a very few firms engaged in the manufacture of indiarubber by Parkes' process, which was admittedly the one most liable to be followed by symptoms of ill-health. The reporters referred in some detail to the various steps of the process, which appeared to involve the greatest amount of risk, and pointed out the methods by which they believed that in some degree these dangers might be obviated. Out of the thirty-three recorded cases, in twenty-four there was some affection of vision. The prognosis appeared to be tolerably favourable, if the patient were able to give up his work at an early period after the first appearance of the symptoms. They were unable to draw any definite conclusions as to the length of time of exposure to the noxious influence necessary for the production of the symptoms; slight symptoms, however, were often noticed a few days after commencing the work. The amblyopia was never an isolated symptom, and never occurred without well-marked general toxic symptoms. In most of the cases which were seen by oculists, decided changes were seen at the optic discs; in the earlier stages, haziness and other signs of chronic neuritis, in the later stages some degree of atrophy or pallor. In some, central defect of the field was found, but this had not been carefully examined, except in a very few instances. Several patients were noted as smokers, and a good many were stated to have been particularly temperate.

Mr. WALTER H. JESSOP read a paper on the Cocainised Eye. An eye under the influence of a local application of cocaine presents the following symptoms:—Anæsthesia of the parts in intimate contact with the drug; enlargement of the palpebral fissure, mydriasis, loss of accommodation, constriction of the small peripheral vessels, flaccidity of the cornea, and slightly altered intraocular tension. The enlargement of the palpebral fissure is due to the retraction of both upper and lower lids by irritation of the unstriped muscular fibres contained in them, probably through their nerve supply from the sympathetic. The dilatation of the pupil always acts to light and to the movements of accommodation, and this, coupled with the actions of atropine, pilocarpine, and eserine on the mydriasis proves its sympathetic origin. The paralysis of accommodation occurs chiefly at the period of greatest dilatation of the pupil, and disappears some time before the pupil regains its normal size. The small peripheral vessels are constricted, producing pallor of the conjunctiva, but this rarely occurs except in normal vessels, and does not last long, showing irritation of the vaso-constrictor filaments of the sympathetic. The flaccidity of the cornea apparently is accompanied by diminished tension in the anterior chamber, but at the same time a brief increase of tension may be noticed posteriorly. The circulation and sensibility of the retina are not affected by conjunctival instillation. From the above facts, and from the action of cocaine on other organs, it is probable that it acts locally, paralysing the peripheral endings of the sensory nerves and irritating the sympathetic. The uses to which the drug may be put in ophthalmic practice are:—(1) As a local anæsthetic in operation cases, ulcers of the cornea, &c.; (2) as a mydriatic for ophthalmoscopic purposes, and combined with atropine in iritis with synechiæ; (3) as a means of paralysing the accommodation in cases in which atropine or homatropine cannot be used. The salt used in all the experiments was the hydrochlorate in 2·4 or 20 per cent. solution, and it had been applied by conjunctival instillation and injection beneath the skin, fascia, or into the anterior chamber. It may be mentioned that in one case of iritis which had been treated by the frequent instillation of atropine into the eye for a fortnight the cocaine still exercised its mydriatic action.

ACADEMY OF MEDICINE IN IRELAND.

A MEETING of the Pathological Section was held on Dec. 5th, the President, Dr. Foot, in the chair.

Surgeon-Major HAMILTON made the following communication. A soldier of fine physique, aged thirty, was admitted to the Portobello Hospital complaining of palpitation. He had been for some time employed on police work, and he knew that his heart was affected. There were extreme præcordial dulness, a well-marked systolic bruit at apex and over base, and a loud systolic and regurgitant bruit. His condition remained the same for about a month, when anasarca set in, rapidly increasing. He sat up one night against orders and died almost immediately. Post-mortem examination:—The viscera, with the exception of the heart, were all healthy, but the serous cavities and cellular tissue contained much fluid. The heart, enormously enlarged, weighed one pound twelve ounces. Mr. Abraham examined it, and found all the cavities dilated and the walls hypertrophied. The inner surface of the pulmonary artery was of a remarkably deep-purple colour. The principal lesion was seen in the aorta and its valve. Large bulging particles of atheroma, not calcified, existed in the ascending arch, and between the openings of the coronary arteries a large, rough calcareous nodule projected opposite the junction of the anterior and left posterior segments of the valve, which were here confluent; and at this point of the valve was a wide irregular opening, admitting a large finger. The rest of the valve was more or less thickened and frayed, and an ulcerated spot was to be seen on the ventricular surface. Just below the nodule a cavity two centimetres wide and one centimetre deep extended below the bottom of the sinus behind the endocardium and into the muscular substance of the heart. Mr. Abraham called attention to the microscopic preparations of the specimens which were exhibited.

Mr. ARTHUR BAKER read the notes of a case in which he

had removed from the left side of the upper jaw of a lady a small osteoma. The fact that such growths rarely occur in situations where diagnosis is attended with difficulty made the case interesting, since it was impossible before removal to tell that the growth in question was not a buried tooth or an odontome, springing as it did from the site of the first left upper molar tooth. The case was further complicated by the existence of a cyst near the front of the jaw, combined with absence of the permanent canine tooth. The tumour on section showed lacunæ disposed irregularly round the vascular canals, which penetrated its substance for some distance. Near the periphery, however, some lacunæ were seen arranged in parallel rows. The communication was illustrated by a cast of the mouth and some etchings of the microscopic and macroscopic appearances of this growth.

Dr. QUINLAN submitted a case of Cancerous Stricture in the Sigmoid Flexure of the Rectum. A woman, aged forty-seven, in a state of great prostation and partial collapse, was admitted into St. Vincent's Hospital. Her abdomen was enormously distended, her bowels not having been relieved for eleven days. A turpentine enema was administered, but came away without effect. On examining the rectum, he thought he perceived a tumour, but it was beyond the reach of his fingers. Great distension of the abdomen prevented an exact diagnosis, and treatment was altogether directed to getting the bowels to act and to keep down pain. Some vomiting was quickly relieved. On the third day she sat up, vomited, and fell back dead. At the post-mortem the body was found emaciated and bloodless. The small intestines were enormously distended with gas. The descending colon was full of fæces. At the sigmoid flexure the cause of the obstruction was found to be a cancerous mass of a malignant character. Beneath the rectum was a peculiar structure affected by malignant disease. Mr. Abraham had pronounced the tumour to be an infiltrating adenoma, caseating in parts.

Mr. O'GRADY exhibited a case of Strangulation within a Hernial Sac, the specimen being from the body of a man aged thirty-three. The hernia came down in the ring. He was admitted into the hospital at 1 o'clock. The symptoms being urgent, he was operated on at 5 o'clock. When the sac was exposed a tense stricture appeared at the external rim. The intestine, a little highly coloured, could be seen through the sac. The hernia was reduced without opening the sac. For two days after the operation, with the exception of two attacks of vomiting, which were relieved, he was free from the usual symptoms. On the third day the stomach sickness with pain returned, and he died the next day, eighty-seven hours after the operation. The question as to when internal strangulation occurred was of interest. It was not tight, and the gaseous contents of the intestine could be passed backwards and forwards. Another question was the expediency of the operation without opening the sac. This case did not exhibit such symptoms as to indicate that course, yet events showed that had the sac been opened he might have recovered.

Mr. NIXON exhibited a Hard Calculus removed from one of the tonsils of a gentleman who complained of a slight obstruction of his throat. Being in the habit of singing, he complained of the obstruction. Both tonsils were considerably enlarged. Detecting a small white speck, the probe elicited a metallic ring. Having failed to grasp the mass with instruments, he enucleated it with his finger. The greater portion was up behind the soft palate. There was considerable hæmorrhage.—Professor BENNETT said the specimen was of great rarity, and moved that it be submitted to the Committee of Reference to ascertain its constitution. It indicated articulation either with another calculus or adjoining bone.—Mr. CORBETT thought the formation was identical with the tartar that often formed about neglected teeth, resulting from constitutional disposition. He had seen several teeth blocked together by it even in young mouths.—Mr. NIXON, in reply, said the gentleman's tonsils were very large, and were not atrophied. The calculus was similar to the tartar formation on teeth. The facet was observable. The teeth were black and hard, and had a good deal of tartar. The gentleman was a great smoker.

The Secretary, Mr. ABRAHAM, for Mr. J. K. BARTON, exhibited a large Mammary Tumour removed at the Adelaide Hospital from a girl aged twelve. Her grandmother had died of recurring cancer of the breast. One brother was now suffering from Pott's caries. The other near relatives were well. The girl's general health had been good and there was no history of injury to the breast. Three months ago a small lump was observed in the left breast, which increased steadily, being at first painful. Mr. Abraham reported the consistence of the tumour to be soft, homogeneous, and elastic; the cut surface bulging and the whole easily peeling out from the surrounding encapsulating tissue. The microscopic sections exhibited enlarged glandular alveoli lined with proliferating epithelium, and separated by thick septa, principally made up of embryonic and spindle-shaped cells, resembling some form of sarcoma. He regarded the growth as a form of adenoma, with cellular hyperplasia of the interalveolar tissue, and he suggested its reference for further consideration to the Committee of Reference. The specimen was, on the motion of Mr. Abraham, seconded by Professor Bennett, referred to the committee, Professor Bennett observing that last year he himself showed a tumour of a character usually regarded as benign fibroma of the breast, weighing about fourteen pounds, but though its removal was effected in a complete manner, tumours recurred in six months in the axilla, neck, and in every direction, some being as big as a man's head.

Analytical Records.

[WE think it right to direct attention to the system we adopt in the conduct of this department. Of the numerous articles of food and medicine submitted to us we select such as we think important to the medical profession and the public. Samples of these are bought by us in the ordinary way, and the results of our examinations reported.)

EXT. CINCHONÆ LIQ., DE VRIJ.

(DE VRIJ'S EXT. CINCHONÆ LIQ. COMPANY, FISHER-STREET, RED LION-SQUARE.)

This is a concentrated extract of red bark, prepared, we are told, in vacuo to avoid the oxidation of the natural acid. Dr. De Vrij, whose authority none will dispute, superintends the manufacture, and great care is taken to use bark, or mixtures of bark, of uniform composition. The manufacturers guarantee the presence of 7 per cent. of the cinchotannates of the alkaloids. These are great advantages. Unscrupulous makers are apt to be careless in the selection of the bark, and physicians are therefore apt to distrust cinchona extracts. Of course, we can only speak of the sample we have examined, but that we find to be exceedingly satisfactory. The rough test of liquor potassæ shows the large quantity of alkaloid contained in the extract, and more careful analysis proves that a due proportion of quinine, as well as the other alkaloids, is present.

ERGOTININE DE TANRET.

(WILCOX & CO., OXFORD-STREET.)

It is, of course, impossible by chemical analysis to ascertain the physiological activity on which the true value of this preparation depends. The ordinary tests show, however, that it is a genuine preparation of ergot, and as such we commend it to the notice of the medical profession. The solution is especially intended for hypodermic injection, and is said to have been adopted in the Maternité de Paris.

SANITARY FLAKE CHARCOAL.

(CAMPBELL & CO., PAISLEY.)

The practical use of wood-charcoal as a disinfectant dates from the well-known experiments of Dr. Stenhouse. Its oxidising power is remarkable, and it might be much more generally used than it is at present. It should be applied in small fragments, as free as possible from dust; and in such a form Messrs. Campbell supply it at an extremely low price. The sample sent to us had a specific gravity of 0·301 and yielded 1·26 per cent. of ash. It was therefore an excellent charcoal, well adapted for sanitary purposes, for which we heartily recommend it.

THE LANCET.

LONDON: SATURDAY, JANUARY 17, 1885.

LAST week we were able to announce two events which may be of good omen. On the 2nd instant the President of the Royal College of Surgeons of England received a deputation of the Association of Members of the College in reference to certain corporate rights and privileges claimed by the Members; and on the 8th instant the Council itself requested the President to invite the Association of Fellows to send delegates to the Committee on Charters and Bye-laws in order that the committee may confer with them respecting some alterations proposed to be made in the Charters and Bye-laws. Were we to adhere too rigidly to the teachings of past experience, we should not be sanguine of a satisfactory result of these conferences and deputations; but we would fain hope that the Council is at length beginning to be sensible of the reality of the organised opposition it must encounter if it continues to pursue its old policy of isolation and distrust. Ever since the establishment of the College, eighty-four years ago, the executive body has followed a line of conduct which has begotten the disaffection and the antagonism of the Members. Fifty-nine years ago more than a thousand Members of the College met together to protest against the abuses of the Council, and to agitate for some reform in its constitution. At that meeting it was resolved that the Members of the Council should be elected annually by the Members (there were no Fellows at that time), and that *each Member* should have a voice in the election. In March last, or fifty-eight years later, a general meeting of Fellows and Members was held in the College, when recommendations were adopted to the effect that the Fellows and Members should have a larger share in the management of the College, and that no alteration should be made in its constitution without the consent of the Fellows and Members, convened to discuss such alteration. The Council has *twice* deliberately refused to give effect to these recommendations. But the Association of Fellows has again submitted these recommendations to the Council, and has requested an appeal to the Fellows and Members. The meaning of this is too plain to be missed; and with the Association of Members threatening an approach, the Council is induced to ask a truce, and to seek a conference. At this stage outsiders may be content to suspend their judgment and await the issue. One thing is certain: the loyalty of the Fellows and Members to the College will finally overcome all the obstruction and prejudice which the present tenants of seats at the Council board inherit from a long line of predecessors. The Council alone is not the College, but the Council *and* the Fellows and Members.

ALTHOUGH the pathology of the affection known as paroxysmal hæmoglobinuria is still shrouded in obscurity, there have not been wanting numerous researches, mostly on the experimental side, which may eventually be found to throw light upon the condition. We say eventually, because each series of observations stands, as it were, apart, and there remains a wide gap still to be filled between the condition observed as a spontaneous affection in man and that artificially excited in animals. The questions which are most open for inquiry group themselves around its etiology. Is it a blood disease? or is it primarily a renal derangement? If malarial influences have no share in its production, what other agencies can explain its intermittent character? If exposure to cold is to be recognised as an exciting cause, how does it operate? These and other points too numerous to mention invest the affection with an interest which would be more widespread if the condition were more common. As it is, they suffice to render it imperative that every case as it occurs should be thoroughly sifted, for a satisfactory explanation of its phenomena may throw light upon the physiology of the kidney, as well as on its derangements. The most recent attempt to elucidate the subject is to be found in the current number of VIRCHOW'S *Archiv*, in an article by Dr. AFANASSIEW of St. Petersburg, based on an experimental research carried on by him in COHNHEIM'S laboratory at Leipsic. The aim of this inquiry was to observe the effects produced by the destruction of red blood-corpuscles within the living body, and the consequent setting free of hæmoglobin, either in the form of organic particles or in a state of solution in the serum of the blood. In that way a condition of hæmoglobinuria was set up, and by varying the agencies employed different degrees of the condition were established, and a more or less exact imitation of the human paroxysmal affection was obtained. The substances employed were glycerine, pyrogallic acid, and toluylendiamin, which, when administered (mostly subcutaneously) to dogs and rabbits, produced more or less marked hæmoglobinuria. Glycerine possesses the property of extracting hæmoglobin from the coloured corpuscles and causing its solution in the plasma. If the dose be a small one, hæmoglobinæmia is the sole effect; but a larger amount is soon followed by definite hæmoglobinuria. Jaundice, however, is not produced. Toluylendiamin breaks up the red corpuscles, so that the blood becomes filled with coloured granules, which accumulate in the liver, spleen, bone-marrow, and also in the kidneys; but, unlike the glycerine cases, there is no hæmoglobin held in solution. With feeble doses, jaundice, described as hæmohepatogenous, is present, with albuminuria; with stronger doses there are both jaundice and hæmoglobinuria, and the animals rapidly succumb. Pyrogallic acid has an action intermediate to the other two agents, extracting hæmoglobin from the corpuscles, and producing hæmoglobinuria with very feeble icterus. Thus by the use of these various agents effects of varying intensity were produced, comparable to the different degrees of paroxysmal hæmoglobinuria observable in man; for it is known that in this affection there may or may not be evidence of blood destruction, and there may or may not be concomitant jaundice.

If, now, we turn to the effects produced on the organs most concerned, we see that in each case there is produced a marked degree of nephritis. The inflammation is most evident around the glomeruli; and the denudation of the epithelium of Bowman's capsule is associated with an escape of albumen or of hæmoglobin within the latter. There is

also, especially in the cases of glycerine poisoning, fatty degeneration or coagulation, necrosis of the renal epithelium, often combined with a deposition of lime-salts into the degenerate cells. In one case of a dog, where ten successive attacks of hæmoglobinuria had been induced by this agent, the nephritis was of an extreme kind, with hæmorrhages into the tubules. The liver in each case also undergoes fatty degeneration; and in the toluylendiamin cases, where jaundice is a particularly marked symptom, the necrotic hepatic cells are in part laden with bile-pigment and the products of blood-disintegration, there being further an infiltration of round cells around the hepatic and sublobular veins. The author next proceeds to discuss in detail the reasons for variations observed in the mode of separation of hæmoglobin from the blood and its appearance in the urine. Sometimes it appears in the form of granules, sometimes in solution, the urine in the latter case containing no casts or sediment, but yielding the characteristic spectroscopic reactions. He suggests that the colouring matter which separates from the corpuscles in the form of yellowish-brown granules is not pure hæmoglobin but a modification of it, and that the particles may either be used up in the liver or deposited in the kidneys; or else that by long persistence in the blood plasma the colouring matter is dissolved and excreted with the urine in solution. The sediment in hæmoglobinuric urine is probably not true hæmoglobin or hæmatin, for it is insoluble and does not have the spectroscopic characters. The dissolved hæmoglobin or methæmoglobin is excreted at the glomeruli, owing either to circulatory derangement or to changes in the glomerular epithelium; whereas the formed products of corpuscular destruction are never found within Bowman's capsule, but are deposited as brown granules in the tubular epithelium. In many cases bile-pigment is to be found in both these situations; and where jaundice is very marked, casts containing such pigment block the tubules. Three kinds of casts are met with in cases of "hæmohepatogenous icterus" associated with hæmoglobinuria—viz., those containing crystals of hæmatin or hæmoglobin, those containing bilirubin crystals, and those filled with the pigmented granular débris of disintegrated blood-corpuscles.

Finally, in order to obviate the errors likely to arise from the practice of employing toxic agents to destroy the blood-corpuscles, he performed some experiments of transfusion of defibrinated blood heated to about 56° C., whereby the red corpuscles are broken up and the hæmoglobin is dissolved in the serum. The effect of such a transfusion is to induce hæmoglobinuria, and the anatomical changes in the kidney and liver are precisely those which occur when the blood-corpuscles are broken up within the body by glycerine and the other agents named. This is held to be sufficient proof that these changes are not due to the direct action of these substances on the organs, but to the separation of hæmoglobin from the corpuscles, and its escape into the general blood-stream either in solution or in a granular state. Dr. AFANASSIEW feels himself justified in describing the renal lesions as hæmoglobinuric glomerulo-nephritis, which in a later stage may pass into an interstitial nephritis, and the condition of the liver he styles "hepatitis interstitialis ex ictero hæmohepatogene." As a contribution to our knowledge of an obscure subject, and particularly as a demonstration that corpuscular disintegration is capable of inducing profound structural lesions, this article may be welcomed; nevertheless it leaves untouched the etiological question, which is the most interesting and obscure of all.

THE code of rules for the prevention of infectious and contagious diseases in schools, being a series of resolutions passed by the Medical Officers of Schools Association, cannot fail to be a useful guide to practitioners engaged in attendance on either our public or private schools. We encouraged in the first instance the formation of this Association, and congratulate the members on the general usefulness of the resolutions they have passed. Some shortcomings naturally present themselves in the work of so young an Association. For example, the members appear to have lost sight of the fact that the general hygiene of all our public schools is under the direction of the sanitary authority of the district in which the school is located, and that in reality the medical attendant of the school has no *locus standi* as an officer of health. His province is essentially clinical, and the sanitary laws of the country repudiate him on matters of public hygiene. The sanitary medical officer appointed by the district authority is responsible for the sanitary arrangements of our schools, and to him should be referred questions of drainage, water-supply, &c., as the legally constituted authority. His authority does away with the possibility of "*that undivided medical responsibility*" which the members of the Association appear to us unwisely to aim at. The law refuses to recognise this "undivided responsibility," and it would be better for the medical attendant of a school to acknowledge the constituted authority of the public medical officer of health, and facilitate, after the manner of a family practitioner, the free and unimpeded working of our public sanitary laws. There is ample room for this division of labour, and the Association seems to be endeavouring to arrogate to itself an authority which it can never in reality possess.

Another clause, to the effect that "an annual return of school sickness to the *governing body* of the school from the medical officer is very desirable," falls short of what we think necessary, for it should not be confined to the governing body, but is equally due to the parents of all the pupils and to the public generally, in order that those who contemplate using the school in future may have some ground on which to judge of its sanitation. The secrecy of the past in this respect should be discouraged in the future, and the Association will deserve the gratitude of parents by doing so.

The question whether there should be a single general infirmary for infectious and non-infectious cases, or a second isolated infirmary for infectious cases, is one upon which school authorities are much divided. A boy falls ill and is feverish. He is placed in the general infirmary without suspicion of anything infectious. In a day or two he develops a rash, and the infectious nature of his malady becomes apparent. It is a drenching November day or a bitter March day, with north-east wind. What parent would approve of his child being taken through the chilling air to the separate infirmary? What medical man would sanction such a course? This, we think, pre-

sents one of the difficulties of a separate infectious infirmary. A wing thrown off from the general infirmary for infectious cases, approached by a covered corridor well warmed and with through ventilation, along which the patient could be taken without risk, appears to us the most workable scheme for a school infirmary, and we know it to have answered well over a number of years where it has been fairly put to the test.

The clause providing that a master in whose house infectious illness has arisen should undergo thorough personal disinfection before resuming work in school is a wise though stringent rule, but we cannot help remarking how much it is in contrast with what the medical officers think necessary in their own case, which is to consist apparently of putting on a large mackintosh before entering an infectious ward. The stringent rule laid down for the master, if necessary in his case, is equally so in that of the medical officer, and should be as rigorously observed.

Some difference of opinion prevailed as to the period of quarantine after exposure to scarlet fever. Dr. CLEMENT DUKES suggested eight days, Dr. FERGUS seventeen days. The Association ultimately adopted by resolution fourteen days. We make no doubt Dr. FERGUS could give many instances of the development of scarlet fever after fifteen days' exposure to infection. We have known instances of such, and we think his suggestion should have been adopted by the Association, or even a longer period than he suggested. The question, When may a pupil who has had scarlet fever safely go home or rejoin school? we think to have ended in a somewhat lax resolution. It would have been better if the resolution had more fully recognised the fact that completion of desquamation may vary from the third to the twelfth week, and that no case can be regarded as sufficiently free from infection till at least a fortnight after desquamation has been entirely completed.

ALTHOUGH certain differences in practice still prevail among surgeons, yet it may be safely asserted that the comparative value of the varied methods of amputation is generally and justly appreciated, and the differences which exist are all explicable by the fact that the perceptions of varied minds always differ to some extent. The value of the so-called "subperiosteal" method of amputation has, however, excited far less attention in this country than on the Continent, or than it really merits. It is now seventy years since WALTHER of Landshut published a short note on this subject, and since then such well known men as OLLIER, TRÉLAT, PONCET, ESMARCH, and VOLKMANN have experimented upon it, practised it and written in its favour; while many other names less familiar to English surgeons have contributed to the literature of the subject. The procedure is not described in our English text-books and Systems of Surgery, and when the late Mr. SHUTER showed a patient upon whom he had performed subperiosteal exarticulation at the hip-joint at the Clinical Society of London, it was regarded by not a few as almost a new departure in operative surgery. We cannot doubt that, both in this country and in America, some surgeons have adopted this modification of the flap or circular method of amputation, but it certainly is by no means generally practised, or even recognised.

It may be well, therefore, to explain what the method is, and how it is best carried out, before entering upon a consideration of its merits. The special feature of the method consists in detaching a flap of periosteum from the portion of bone to be removed, sufficient to cover over the sawn end of the bone. The connexions of this periosteal flap with the muscles on its outer surface must be carefully preserved, that there may be no interference with its nutrition; and to counteract its tendency to retract with the muscles, its cut edges should be united by fine catgut, and great care be taken to secure rest to the stump by suitable compression. The detached periosteum should equal in length the diameter of the bone at the point of section, and the amputation flaps should be cut so that their base is this distance below the line of amputation; then when they have been reflected up to their base, the periosteum should be divided circularly round the bone, and detached by means of an elevator or raspatory.

The advantages that may be claimed for this mode of amputating are: First, that the sawn surface of the bone is brought into contact with the tissue which is physiologically fitted for its protection, and to which it becomes organically united most quickly and certainly; while, if the operation be carefully done, no part of the bone is bared of periosteum, and its vitality thereby endangered. Secondly, that from the periosteal flap a thick layer of new bone is quickly developed, which securely closes in the medullary cavity; by this and the rapid primary adhesion of the periosteal flap, the medulla of the bone is guarded against the spread of any inflammation or suppuration that may be present in the soft parts of the stump. Thirdly, that the stump is a better one than can be guaranteed by any other method, as there is no tendency for the bone to adhere to the cicatrix, and little if any liability of the bone to atrophy; the stump is firm, and the soft parts over it are mobile and supple. These are distinct advantages. But what can be said on the other side of the question? First, that when flaps are well devised and made, and the wound properly treated, a mobile stump without adhesion of the bone to the cicatrix is obtained. Secondly, that muscle will adhere to the sawn end of a bone, and that in such a case the medullary canal becomes closed in by a plate of osseous tissue; this lamella is, however, much thinner and of later formation than when a periosteal flap is made. Thirdly, that to detach and suture this flap of periosteum adds to some extent to the duration and difficulty of the operation. In the large majority of cases this objection should have no weight. As M. NICAISE points out in the current number of the *Revue de Chirurgie*, we have arrived at a period in the progress of surgery in which it is incumbent to study how, by attention to small details, we may give our patients the most useful stumps, for the more important measures by which the operation of amputation has been deprived of its chief dangers are known and practised with more or less success by all surgeons. Fourthly, in young persons the preservation of a flap of periosteum may lead to an osteophytic outgrowth from and around the bone. The liability to this greatly lessens after adolescence. But it seems clear that it only occurs when there is inflammation of the tissues of the stump or some abiding irritation of the osteogenetic tissues of the periosteum. And now that we

are able, in the great majority of cases, to exclude these processes with an approach to absolute certainty, this disadvantage is not of great moment.

These we believe are the arguments that may be advanced for and against this method of amputation. We cannot but think that, when carefully considered, they show a distinct balance in favour of the operation, and we hope that British surgeons will devote more attention to it than heretofore, and that we shall learn from them the results they obtain.

Annotations.

"Ne quid nimis."

LUNACY LAW REFORM.

WE must be excused for taking as much note of the medico-social aspect of the lunacy question as of that which may be more properly called its "professional" aspect. Regarded from the first-mentioned of these points of view, it must be confessed that it does not strike us as an impending calamity that "we are now within a very reasonable distance, indeed, of a strike among medical men against signing lunacy certificates at all." We do not quite know what "a very reasonable distance" may mean, though we have a fairly distinct notion of what "a measurable distance"—Mr. Gladstone's favourite phrase—signifies. However, the distance is not the most interesting feature of the case. So far from a general refusal to sign certificates being a calamity, we venture to think it would be a blessing to the community and to the profession. Matters would then, doubtless, be placed on a reasonable basis as regards the purely medical function of diagnosing mental disease distinguished from the absolutely non-medical, if not anti-medical, business of keeping private prisons for the incarceration of certified lunatics. It is most devoutly to be hoped that we are within "a very reasonable distance" of the auspicious moment when the Government may be ready to propose, and the Legislature find leisure to consider and pass, a short measure putting an end to certificates altogether. It is a most unreasonable procedure to certify a lunatic. The law blindly exacts certificates, and medical men give them, but both the command and the compliance are unreasonable and needless. By all means let us "strike," and rest assured good will come of it, though not perhaps precisely in the way some persons expect.

CEREBRAL PATHOLOGY.

AT the last meeting of the Clinical Society a paper was read by Dr. Hale White on lesions of the frontal lobes. It is a matter of surprise, considering the freedom with which such questions have been discussed, that so much yet remains to be learnt. Has it not been accepted as a fact for some time past that injury to or disease of one of the frontal lobes is unattended with important damage of the ordinary functions of mental life? Whether this absence of symptoms is due to insufficiency of examination or not seems to be a matter worthy of consideration. Another possible view of the case is to suppose that in the recorded cases the individuals injured in the frontal regions have not been of the educated sort, and that as a consequence the functions which should have been present have never been developed. It seems certain that this kind of explanation would hold good for many cases of absence of symptoms when we have to deal with infants and others whose mental powers have not yet appeared, for the all-sufficient reason that the structures which entitle them to the possession of the faculties are then in an immature condition. Moreover, it would appear that Hartley's time-honoured distinction between volitional and automatic actions is greatly in danger of being forgotten, or at least of being misunderstood. We should have thought that no one would have cavilled at Mr. V. Horsley's statement that the drawing of a triangular outline with one hand whilst the other was describing a circle was an impossible performance of consciousness. Consciousness is single and undivided, as best seen in close attention. But there are such processes as may safely be called subconscious, or almost unconscious, and amongst these must be classed the performances of telegraph-clerks, weavers, and interpreters of music, whether of the Chopin order or not. It is not uninteresting to consider how far education would be possible in the absence of that most important principle which shows that volitional acts do, after a series of performances, become automatous, requiring very little or almost no guidance from the highest intellectual centres. The last meeting of the Clinical Society might not unreasonably be called a psychological evening, for both Dr. Hale White and Mr. Victor Horsley made the paper which the former read the occasion for some general remarks on the psychological functions of the cerebral cortex, if such a mode of expression, where mind and matter are confused together, be allowed. The latter gentleman is a supporter of the view that the highest intellectual functions are mostly energised from the hinder portions of the brain, whilst the frontal regions are the special seats of the highest emotional faculties, including, as we understood him, the power of giving expression to these. The lines of Hamlet, "See what a grace was seated on this brow: Hyperion's curls; the front of Jove himself!" would on this showing not be testimony to the intellectual faculties of the Queen of Denmark's first consort. However, the time has not yet arrived when we can speak with certainty on such matters, though it is clear from Prof. Ferrier's experiments and many clinical observations that the perceptive functions associated with the most intellectual organs of sense, the visual and auditory, are represented in the posterior regions of the cerebral hemispheres. The view which Dr. Hale White propounded with regard to the most recently acquired faculties as having no very definite site in the cerebral cortex, so that either frontal lobe may assume the functions of the other, would appear to have some kind of connexion to the views of evolution and dissolution as propounded by Dr. Hughlings Jackson. Though it is usually taught that function precedes structure, yet there are many considerations which lend support to the notion that these elements go hand in hand. On this view it is not difficult to understand how, so to speak, virgin brain soil may be made by education to perform any functions whatsoever. True it is that through a long series of ages certain specialisations have already been effected, and the development of the individual must on the laws of evolution proceed along the lines which heredity has laid down—that ontogenesis must be rapid phylogenesis. But, potent as are the influences of untold generations of experience, still the present agencies are in a measure perhaps more powerful.

SCURVY.

WE have received by this mail an interesting paper by Brigade Surgeon Cameron Macdowall, containing a criticism on the new theories and experiences of scurvy, which was read before the Bombay Medical and Physical Society. Dr. Macdowall criticises Mr. Neale's experience as to the value of fresh meat as an antiscorbutic, and he also controverts the statement that certain of the Hill tribes live altogether without vegetables and yet are free from scurvy. He says that undoubtedly these do make use of vegetables, and also cases of scurvy do occur among them. Dr. Macdowall very properly insists that nothing should be allowed to supersede the use of fresh vegetables, or the administration of lime-juice to troops and sailors during

campaigns or long voyages, when vegetables cannot be obtained. Still we cannot agree with him in his depreciation of fresh meat rations as a prophylactic. Experience has also shown that too much reliance must not be placed on preserved vegetables, the crews of the whaling vessels, who are supplied freely with the Dutch preserved vegetables, which are generally admitted to be the best, often being severely visited with scurvy. It is probable that the antiscorbutic value of vegetables and meat depends on the freshness of these articles, and that by keeping changes occur which diminish this value. The nature of these alterations probably are very similar to those that take place in the saccharine elements, as we see in fodder preserved by ensilage, in which there is an increase of free organic acid, whilst the amount of alkaline bases present remains the same. He has moreover shown that in scurvy the amount of alkaline phosphates discharged by the urine are diminished, a fact subsequently confirmed by Zuelzer, and this he considers a proof that in this disease the alkalinity of the blood is diminished, and that the alkaline phosphates are consequently retained in the system to supply the deficiency. This view is supported by the experimental researches of Hoffmann and Loscar, both of whom found that the organism retained its alkaline bases when an attempt was made to reduce the alkalinity of the blood; and Dr. Macdowall is in error in supposing that it is based on Maly's researches, since on the question of the derivation of acid from the alkaline blood, in the case of urine, Maly and Ralfe distinctly differ.

THE SANITARY INQUIRY IN CALCUTTA.

WE regret to learn from the Indian papers that there has been an occurrence of an unpleasant character in the proceedings of the committee appointed by the Lieutenant-Governor to inquire into the manner in which the cleansing and conservancy of Calcutta have been carried out, and to report what further provision should be made with a view to increased efficiency. It appears that Surgeon-General Payne was requested by the committee to attend to give evidence; that in the course of his examination certain questions were put to him by Mr. Cotton, the member nominated by the municipal commissioners, which Mr. Beverley, the chairman of the committee, considered to be of "such an offensive character that Dr. Payne very properly declined to answer them." Mr. Beverley felt himself called upon to address a letter to the chairman of the corporation protesting in very strong terms against the course taken by Mr. Cotton, and this, with Mr. Cotton's reply, has been published in the papers. No report of the questions put has reached us, and we therefore refrain from giving any opinion on them, except that we cannot conceive an officer of Surgeon-General Payne's high character refusing to answer them without good cause; nor a gentleman of Mr. Beverley's social and official standing protesting in the strongest terms against Mr. Cotton's conduct in putting them, unless they were most objectionable. It appears from the correspondence that Mr. Cotton was coached up on these questions by Mr. Harrison, the chairman of the municipal commission, and that they were "intended to show Dr. Payne's hostility to the elementary principles of local self-government." This did not form any part of the question referred to the committee for report, and the effect of its introduction must have been, whether intentionally or not, to divert attention from the important subjects under investigation, and to mix up personal matters with questions of great public interest. Unless Mr. Cotton can show that he adopted the course which has given rise to so much unpleasantness in the interests of the Calcutta public, and not of the municipal corporation as distinct from this, he has laid himself open to severe reprehension, and has done much to damage the reputation of the body which he represents on the committee. We have every confidence that Sir Rivers Thompson will not allow himself to be influenced by this occurrence, but that he will carry out fearlessly and impartially the investigation into the working of the sanitary commission. In the mean time this method of raising an issue quite distinct from the question referred to the committee cannot fail to excite distrust, on the part of the public, in those by whom it has been adopted, and a suspicion that there is good reason for wishing to divert attention from the subject under investigation.

PROPOSED ENLARGEMENT OF THE ROYAL SURREY COUNTY HOSPITAL.

A SPECIAL meeting of the Court of Governors of this excellent and very necessary institution, held last week in the board-room of the hospital, was hardly, we should hope, needed to enforce its claim upon the attention of the wealthy and charitable county of Surrey at a time when it is obvious that it cannot adequately meet the demands made upon its space and resources. None the less, however, are we glad to see a long account of this meeting in the *Surrey Advertiser*, since it is only, too frequently, that by "bold advertisement" alone kindly hearts are impressed with the necessity for open-handed generosity. "Evil is wrought by want of thought as well as by want of heart," and good often slumbers for want of initiation. In this case excellent examples are not wanting. It was announced that the Earl of Onslow had generously offered land to the value of £1000 for £600, and supplemented it by a gift towards the expenses of £300. Mr. J. S. Budgett of Stoke-park, who very properly deprecated the selling of stock unless absolutely necessary, and pointed out that "to hesitate to believe that the county would contribute £5000 was an absurd and timid policy," also promised a contribution of £250 and £10 a year towards the increased amount that would be required annually to support the extension. It is also stated that before the governors left the room the list of subscriptions had nearly reached £1000. The Royal Surrey County Hospital has now to cope with a remarkable increase in the number of patients, and to provide for the wants of an extended area, therefore we are convinced that the committee being able to purchase the required land at once, though the building is not to be commenced until at least half the estimated cost (£6000) of the new wing is promised, the inhabitants of the county will promptly ensure not only a start, but the whole of the required sum by contributing of their abundance, of their sufficiency, and, we venture to hope, even of their mites. It is proposed to include in the intended additional accommodation separate wards for children.

AVOIDABLE ILLNESSES.

IF men were to reflect upon the amount of illness, not to mention other evils, which they bring upon themselves, a total which ever increases with their self-development in civilisation, they would sometimes question the reality of a progress which includes so many errors. Even if we leave out of sight the known results of faulty practice, there is still a large margin of what seem to be anomalous mishaps which day by day are shown to have had an acquired and avoidable beginning. It is always satisfactory to get at the root of these unaccountable flaws, especially when they nearly concern one's personal health. Their removal is then usually assured, and our former discomfort or dread is covered with the satisfaction of enlightenment and of remedial success. Trade-work has at all times illustrated, and does still continually illustrate, the truth of these remarks. Let us grant all that is due to its energy and enterprise, and still

the value of its productions is heavily discounted by errors which are not only due to oversight or ignorance but often to neglect. In so far everyone will admit the need of correction. By way of example, consider the case of staining and its applications. We showed a short time ago that some of the aniline dyes in the market, from whatever reason, were found to possess poisonous properties and to be unfit for dyeing articles of dress. Further evidence has not been wanting to confirm those observations. Another and older enemy of health, arsenic, has never been extirpated, but shows its front among us from time to time. Cases of poisoning by arsenical wall papers have been reported quite recently. The symptoms described, it is true, did not include the gravest possibilities, but chronic and intermittent ill health was proved to depend upon the presence of a highly coloured paper containing much arsenic. Mere colour we would add, however, is no test of quality in this respect. The most innocent-looking hues may be arsenical, and, conversely, the same tints may be had without any such poisonous admixture. Undoubtedly the only guarantee for safety is to be found in the discontinuance of this or other similarly hurtful substances as dyes in dwelling-houses. While there is any doubt about the matter, no custom in decoration can be safer or better than that of distempering walls and afterwards oil-painting them with some plain colour.

THE DWELLINGS OF THE PEOPLE.

AT a meeting of the Mansion House Council on the Dwellings of the People, held on Friday, January 9th, many matters bearing on the cleanliness and health of the London population were brought forward and discussed. Reference was made to valuable work done by the agents of the Council in educating the inhabitants of poor districts in sanitary usages by means of handbills and lectures on the subject. Important suggestions were also offered on certain points in which the law was still imperfect or inactive. Such were the removal of nuisances and of household dust, and the system of water-supply, the election of medical officers of health, the control of vestries and of house-holding vestrymen, the notification of infectious disease, the registration of house owners or lessees and of the inmates of tenements, the erection of mortuaries where necessary, the encouragement of sanitary officers in regard to salary, &c., and the protection in case of legal process of district surveyors of buildings. A report embodying the above-mentioned proposals was submitted to the meeting and adopted unopposed. Further suggestions relating to plans for cheapening house rents, and for thinning the civic population by building suburban dwellings, likewise received favourable consideration. Regarding the importance of each and all of the plans of reform described on this occasion, there can be no question. The Council have done well to signify their general agreement to them. There must, of course, remain among so many resolutions, matters of detail which call for thoughtful discussion, and perhaps for modification; but their gist, as they stand, is such as the medical profession as a body will not scruple to approve. The proposed measures of cleanliness, the removal of refuse, and the maintenance of water-supply, cannot fail to influence to the best purpose the great nest of contagion which exists in our midst. The notification of infectious cases is a not less important subject. The theory on which it rests is a principle in medical science. Sense and judgment in its application may render it a most serviceable aid in practice, and we hope that the want of these may not be suffered, as in some past instances, to mar its utility. The recommendations of the Council with respect to registration of ownership and of tenants must command our warm support. Indeed, without some system of the kind reform is hopeless. We cannot conclude these remarks without endorsing the statements made in favour of improving the standing, remuneration, and security of inspectors and district surveyors. Apart from the personal risks and expense which such men are liable to incur, there is much to dissuade and discourage them from the conscientious discharge of their duties. There is, therefore, the more reason why the authorities and the public should choose trustworthy men for such offices and should grudge them in their exercise no requisite facilities.

ADMINISTRATION OF THE DARENTH SMALL-POX CAMP.

THE complaints of bad administration at the Darenth Small-pox Camp have assumed a much more serious aspect since Mr. Nathan Robinson, himself one of the committee charged to see to the efficient working of the camp, made admissions at a recent meeting of the St. Pancras Vestry which at first sight go far to prove the case of the complainants, and we are glad to see that such an inquiry as we advocated last week is about to take place into the circumstances which have been brought under public notice. Briefly stated, the charges which have been made relate to the inferior quality of food, difficulty in securing regular meals, enforced labour beyond the strength of the patients, failure to supply sufficient clean linen, want of proper classification of patients, &c. On the other hand, Sir Edmund Currie, whose voluntary and incessant labours in connexion with the preparation of the camp and hospital ships at a time of great emergency are deserving of the highest recognition, both on the part of the managers of the Asylums Board and of the public, repeats his statement that some of the allegations made are absolutely untrue; also we publish in another column a letter by Surgeon-Major Ince in which strong testimony, as the result of a minute personal inspection, is given to the present satisfactory condition and arrangements of the asylum. We have always looked upon the huge aggregation of patients at Darenth as calculated to bring about administrative difficulties even of a more serious kind than those which are alleged to have taken place; and quite apart from the truthfulness or otherwise of the complaints, we think that good is certain to result from any sufficiently exhaustive inquiry that may be made.

ISOLATION IN GREATER LIVERPOOL.

THE city of Liverpool having at last provided itself with hospital accommodation, though of a limited and temporary sort, the Greater Liverpool which surrounds the borough finds itself in much the same sort of trouble as that which the parent city suffered from. The Toxteth-park Local Board of Health cannot but have known that the arrangement hitherto adopted, by which people have been pauperised for the sake of the protection of the public health, must come to an end; but apparently they have failed to act under the powers which they, as a sanitary authority, possess to provide suitable means of isolation for their district. The result has been that on the occurrence of some recent cases of small-pox they had to run hither and thither pleading with workhouse and sanitary authority to aid them in an emergency which should have been foreseen and provided against. For some considerable time they met with nothing but stern refusals; the city hospital was solely for Liverpool citizens, and the use of the workhouse as an infectious hospital had been prohibited by the Local Government Board. At last, however, this prohibition was disregarded, and once more Toxteth-park saves itself from some danger at the expense of pauperising some of its inhabitants. It is to be hoped that the lesson which has again been taught will not be allowed to pass unheeded. When the authority last met they decided to

find out if other sanitary bodies would co-operate with them in the matter of hospital provision. Whether by combination or otherwise, the Toxteth-park Local Board have a duty to perform to the inhabitants of their district, and they should forthwith take measures to make such hospital provision as is adapted to their special needs. Other sanitary districts which go to make up the Greater Liverpool would also do well to take warning in time.

HARMLESS LUNATICS TO BE SENT BACK TO THE WORKHOUSES.

IT is amusing to observe the irony of Father Time in his dealing with questions of socio-political reform. By the familiar statute known by the name of its framer as the Gaythorne Hardy Act harmless lunatics were to be rescued from the neglect and tyranny of workhouse-management and brought under the benign influence of the asylum system. So much was this desired that, in addition to providing large establishments for the reception of imbeciles, four shillings a head was allowed per week for the maintenance of harmless lunatics in asylums. Under this inducement—until its illusory character was proved—the old women who would not get up, and the old men who would not go to bed, without more trouble than workhouse authorities cared or dared to expend on them were transferred to the asylums. Now they are to be sent back to the workhouses, in order, as it is thought, to make way for non-paupers in public asylums. In so far as this may be a clumsy step towards the abolition of private asylums, we hail the token of awakening; but we are not so very sure that the new move will be in the direction supposed. This may only be another of many devices for the providing of asylum accommodation adequate to the needs of a population which is increasing chiefly, if not wholly, because it is being rapidly multiplied by fanciful definitions of "insanity," and because the difference between *increase* and *accumulation* is not even yet adequately understood.

CHOLERA IN INDIA.

IN a short annotation in THE LANCET of October 4th, 1884, attention was drawn to the prolonged duration of cholera in the Tanjore circle. The sanitary commissioner of Madras (Dr. Furnell) attributed it to the deficient and contaminated water-supply, and predicted it would be considerably lessened as soon as a proper monsoon had filled and cleaned the tanks and watercourses. This prediction has been fulfilled. The south-west monsoon, which had held off during the months in which it usually makes its appearance—viz., June and July—came down late in August and September, and the mortality fell immediately from hundreds to tens per diem until the cholera disappeared entirely. Another very instructive example of the intimate connexion between a contaminated water-supply and cholera has recently shown itself in Madras town. A severe cyclone burst over Madras on November 21st, causing immense damage to houses, trees, and standing crops; but, greatest misfortune of all, causing a breach in the bund of the Red Hills tank or lake from which Madras is supplied with drinking water. The water from this immense reservoir, quite a little lake, flooded the country round, carrying away several villages and causing great loss of property and life, and depriving 400,000 inhabitants of their usual supply of water for domestic purposes. Recourse was had immediately to the old and deserted tanks and wells which dot the town, but whose use had for many months past been given up under municipal authority. Up to the date of the breaching of the tank no deaths from cholera had been returned for the month within the municipal limits of Madras. Five days after the catastrophe—viz., on November 26th—two cases occurred, and from that date the cholera has increased, until at the present time of writing the deaths number some ten to fifteen a day. In the meantime strenuous efforts have been made under a strong committee appointed by Government to obtain a pure water-supply from other sources, and with such success that at the date of our information the stand-pipes had begun to give forth a moderate supply of good water. There is little doubt cholera will again rapidly disappear.

THE REGISTRAR-GENERAL'S WEEKLY RETURNS FOR 1885.

THE area embraced by the Registrar-General's weekly returns during 1885 will be the same as it was last year—namely, the twenty-eight large English towns and the outer ring of suburban districts around London. The population of these towns, including the London suburbs, in the middle of this year is estimated at 10,021,684 persons, showing an increase of 184,696 upon the estimate for the middle of 1884. The population of London and its suburbs is estimated at 5,199,166, or more than 100,000 in excess of the estimate for last year; the increase of population of inner or registration London being 64,567, and of the outer ring 40,604. The largest of the provincial towns are Liverpool with 579,724 persons, Birmingham with 427,769, Manchester with 337,342, and Leeds with 333,139. Manchester with Salford would take third place with a population of 541,417, very little less than that of Liverpool. The smallest towns in the list are Huddersfield, 87,327; Wolverhampton, 79,185; Halifax, 77,378; and Plymouth, 76,045. The weekly returns also include statistics of Edinburgh, Glasgow, and Dublin, furnished by the Registrar-Generals of Scotland and Ireland, the aggregate population of these three cities being rather more than a million. And, lastly, the returns give certain information for thirty-three colonial and foreign cities supplied by various authorities abroad, the estimated aggregate population of these cities exceeding sixteen millions. Thus the Registrar-General's weekly returns for 1885 will give mortality statistics for populations at home and abroad amounting in the aggregate to more than twenty-seven millions of persons. It may be noted that the list of twenty-eight English towns specially dealt with in the returns includes all towns in England and Wales that had at the time of the last census a population exceeding 70,000 persons; the only exceptions being Croydon and West Ham, both of which lie within the compass of the outer ring of London.

"SINGULAR MEDICAL ACTION."

THE *Islington Gazette* reports under the above heading an action by Mr. John Walker Smythe, for the recovery of £2 13*s.* 6*d.* for professional services rendered, against a Mr. Pond. The charge was for attendance on the defendant's wife. The defendant filed a counter-claim of £4 for expenses incurred—so it was alleged—as a consequence of the plaintiff's negligence. The patient, according to the plaintiff, suffered from "injuries caused by her husband" and bronchitis. The defendant suggested another opinion, and Mr. Weston was called in. An abscess formed, and an attempt was made to show that by ordering cold water applications Mr. Smythe had treated it wrongly, as also by lancing it in the wrong place and at the wrong time. Mr. Smythe, thinking the nurse negligent of his instructions, retired from the case. Nothing was heard of the defendant's complaints till the bill was sent in. The attempt to show serious difference of opinion and practice between the medical men broke down completely, and the judge, after some very sensible remarks, gave a verdict for the plaintiff on both claim and counter-claim, with costs.

THE CLINICAL SOCIETY.

THE annual general meeting of this Society was the occasion for the reading of the Report of the Council and the Treasurer, which showed that the Society was in a prosperous state and numbered nearly 400 members. The Society had to regret the loss by death of Dr. Hall Davis, Dr. Barclay, Dr. Mahomed, Mr. Cæsar Hawkins, Professor S. Gross, and Mr. Wheatley. The exhibition of living specimens had been carried out on an increasing scale during the past year. Myxœdema, spina bifida, and Charcot's disease had been the subject of special work. Dr. Frederick Taylor proposed, and Dr. D. W. Finlay seconded, that the Report of the Council be received, adopted, and published in the Society's Transactions. Dr. Moxon proposed a vote of thanks to the retiring President, Sir Andrew Clark. He said that as he went away from the discussion the other night he was wondering what in other professions would correspond to the scene he had been witnessing, and he could not think of anything quite like it in the Law or in the Church. Perhaps in the Army and Navy there is something of the kind. He had heard and read very interesting discussions in connexion with these services in which our national dangers and defences have been considered. But at these important debates the Secretary of State for War was not to be seen nor the First Lord of the Admiralty. He congratulated the profession that its leaders were found able and willing to preside over Societies like the Clinical. The members were not, said Dr. Moxon, insensible of the sacrifice which is thus made for our benefit when time of such value is spent amongst us. Sir Andrew Clark had supported the clinical character of the Clinical Society. It was a great pleasure to propose a vote of thanks to the retiring President. He remembered proposing not many nights ago another vote of thanks in the Society, and if the Society would allow him he would like to allude to that occasion, because, largely through the chairman's courtesy to him, he was allowed to take up a somewhat ambiguous position, which led to his expressing his admiration of Professor Charcot under circumstances that seem to have prevented the earnestness and reality of that admiration from appearing clear to those who only read the report of what he said. He would now like to be allowed to say, with perfect distinctness, what he intended to have said on the former occasion, and to express his full recognition of the great advantages which the work of Professor Charcot had conferred on the medical profession, and the brilliantly successful manner in which he has thrown light on many obscure problems. Returning from this digression, he would again ask the Society to express warmly its thanks to Sir Andrew Clark. The vote of thanks was passed by acclamation. The list of officers for the ensuing year was published in THE LANCET of Dec. 27th, 1884.

A CONVENIENT MODE OF INQUIRY.

THE Education Department is, in a praiseworthy way, setting an example of ingenuity to other departments throughout the country. The allegations of over-pressure recently made are being specifically investigated. The inquiries already instituted have been, so far as we can see, carried out in a very careful and exemplary manner, and what makes them particularly valuable is the fact that they were conducted either by the managers of schools themselves or by the inspectors; in short, by one or other, or both, of the parties upon whom the responsibility of wrong-doing or neglect, if proved, must have fallen. This is an admirably simple and promising idea. We hope to see it extended. Instead of all the fuss and trouble of proceedings at Scotland-yard and at assizes, why not refer the whole business of criminal investigation and the repression of crime to the criminal classes themselves, who might be asked to form themselves into a standing committee of inquiry? Thus with all matters of management; let asylums for lunatics be inspected by their own committees; factories by their proprietors; let London milkmen analyse the milk; and so on. The reports obtained from these sources will be just as interesting and of precisely the same value as that which has just been furnished to the Board.

TUBERCULOSIS IN LARGE RUMINANTS.

TUBERCULAR inoculations in large animals have been but little practised, though they would appear to possess special interest for the pathologist. The progress of events in the lymphatic system and distant viscera may be watched more easily than in smaller animals. M. Colin has worked at this subject. His method is to introduce beneath the skin a drop of pulp with a thin section of tubercle taken from an animal recently killed. A tumour rapidly develops at the site of inoculation and opens towards the end of the second week; the orifice grows larger from ulceration, and a sort of gaping chasm is formed, with cheesy contents, having much resemblance to the cavities in the lung. Numerous grey granulations form in the wall around. At the same time the nearest lymphatic gland becomes swollen and tubercular, either as a whole or at several parts. The whole of the morbid process may subside after it has reached this stage, the viscera and remaining lymphatic structures not being affected. These local processes take place without any fever or wasting. In young animals the tendency to tuberculisation is much greater, and then the dissemination of the tubercle may be followed all along the lymphatic vessels into the thoracic duct, and finally over the different viscera, including the serous membranes. The periods of incubation and of spread to the viscera have been carefully worked out, but the report from which we take the above abstract is wanting in details.

PREVENTIVE MEDICINE IN SCHOOLS.

WE pointed out in an annotation last week that the teeth of all the children attending the communal schools in Brussels are examined by order of the State, and that during the year 1882-83 no fewer than 1250 pupils required the services of the dentists, which they would probably have never otherwise obtained. We are glad to note in this connexion that the managers of the North Surrey District School, Anerley, acting on the advice of the medical officer of the school, Mr. H. J. Prangley, have appointed a dentist to attend weekly in order that the children may have proper attention paid to their teeth. The managers and Mr. Prangley are to be congratulated on the important step they have taken. There can be no doubt that the appointment will receive the sanction, if it has not already been given, of the Local Government Board.

THE CAUSE OF SOOT-CLOUDS.

STRIPPED of its technicalities and reduced to the commonsense level of average human brain-power, the discussion about soot and fuel economisers amounts to this: We want less of force and rapidity and more of volume in the air passing through our domestic fire-places. They ought not to be so much like small blast-furnaces as they too generally are. The fuel, whatever it be, should burn quietly, consuming the combustible part of the fuel, allowing the gases—which are partly waste, unfortunately, and partly consumed—to rise slowly and passively and escape up the chimney without blowing up the residue of the carbon with them. A strong and rapid current of air through a fire must mean waste, and most probably will also mean soot or smoke. The air

which supplies oxygen to a fire should be wafted gently between and over the coals in the grate, not blown with a rush from below through them. If this simple fact be mastered, it will be easy to secure the object with almost any grate and any fuel. If it be not understood, the search for a special apparatus and particularly good fuel must be futile. Let us begin by first learning and then teaching the A B C of the process, which is really very simple if it be only understood. As it is, the cloud of words is becoming almost as great a nuisance as the soot-cloud itself.

THRUSTON PRIZE, CAMBRIDGE.

THE Thruston Prize of fifty guineas, which is awarded triennially to that graduate of Caius College who has published within the preceding three years the best original investigation in physiology, pathology, or practice of medicine, has just been adjudged to Dr. C. H. Ralfe, assistant physician to the London Hospital, for his researches in Urinary Pathology and Therapeutics. Communications giving the details of his researches have appeared from time to time in THE LANCET. In 1882 Dr. Ralfe collected these together, and published them in the form of a treatise, entitled "Morbid Conditions of the Urine dependent upon Derangements of Digestion," and it is for this work that the committee appointed by the College to decide the prize have made their award. This is the first time the prize has been bestowed under the new regulations of the recent University Commission. Formerly it was given annually, and was of the value of £18; it was in the gift of the Fellows, and was generally bestowed in rotation among the Doctors of Medicine, without any special work being required except a short address to be delivered by the recipient in the College chapel. The present arrangement is undoubtedly an advance in the right direction, since the element of competition greatly increases the value to the recipient; whilst the requirement of "publication" permits of criticism and comment on the work done.

CERTIFICATES IN LUNACY.

IN his annual report on the Metropolitan Imbecile Asylum at Caterham, Dr. Stanley Elliot refers to the inadequate material on which patients are at times consigned to asylums. Thus, in one case the information supplied by the medical practitioner was as follows:—"Very subject to epileptic fits, which prevent his doing any work." It is added, as regards this patient, that he was undoubtedly of unsound mind; but Dr. Elliot expresses an opinion, in which all unbiassed persons will concur, that, in the interests of the liberty of the subject, no individual should be consigned to an asylum for the insane unless facts actually indicative of insanity are recorded by those who venture to sign certificates. We can only wonder that such a certificate as the one just referred to was allowed to remain in force.

REMOVAL OF ARTIFICIAL TEETH FROM THE ŒSOPHAGUS.

ON Wednesday, the 14th inst., a patient was admitted into the Middlesex Hospital having just accidentally swallowed a plate with four artificial front teeth. Mr. Lawson saw the patient and endeavoured to extract them with long forceps; but finding that, although he could feel them, they were so low down that he could not seize them, he decided to open the œsophagus. This he did, and removed the teeth. The plate was lodged in the œsophagus below the level of the cricoid cartilage, and was fixed by the sharp points of the clips which held it to the other teeth. The patient is making a satisfactory recovery.

SWISS DRUNKENNESS AND THAT OF OTHER COUNTRIES.

The Times continues its interesting series of communications on the drink question in Switzerland, which should be carefully read by public and philanthropic men in all the countries of Europe. The present communication consists of an analysis of the report of an inquiry into the whole subject by the Federal Council, which seems to have been carried out with great ability, and is supplemented by a report from Dr. Schuler, Federal Factory Inspector. The consumption of spirits, and, still worse, that of absinthe, has "portentously" increased. The increase of spirits has been much faster than that of wines, though the importation of wines has quadrupled in little more than thirty years. The greatest rate of increase of both was in the period of prosperity including and following that of the Franco-German war. The Federal Council attribute this most disastrous increase in the consumption of alcohol to two causes: first and mainly, to the introduction of free trade in alcoholic beverages, and the withdrawal from the Cantons (by the Constitution of 1874) of the power to limit public-houses; and secondly, and in great measure, to the commercial and agricultural prosperity which prevailed some ten years since. "Good times make drinking" in Switzerland as elsewhere. Spirits are very cheap; in the Canton of Berne two decilitres of schnapps (containing 6 oz. 8 oz.) may be bought for one penny—almost as cheaply as beer. The result in the production of pauperism, crime, insanity, physical incapacity, and death is told in the article. It is the disgrace of England to show more coarse drunkenness than most other countries, but in the amount of alcohol per head consumed she is exceeded. A table is given showing that this amount is greatest in the following countries in the order of their names—France, Belgium, Switzerland, Denmark, England, Germany. Assuming that spirits contain 50 per cent. of alcohol, wine 12½ per cent., and beer 5 per cent., the Frenchman's consumption of alcohol is at the rate of 19·67 litres per year, that of the Englishman 10·03, and that of the Swiss 13·45; the Dane, though he consumes 18·90 litres of spirits in the year, drinks so little wine and beer that the actual alcohol which he imbibes is represented by 12·22; the German is a long way in the rear with 8·30 litres. The Frenchman drinks almost as much wine as the Englishman does beer; it contains twice as much alcohol; besides, he takes brandy in his coffee. The ordinary Englishman does not diffuse his drinking as the ordinary Frenchman does; he drinks one or two days a week to his great disgrace, and, let us hope, repents during the remainder. There is this further difference in England: the existence of large classes who drink nothing or next to nothing, leaving the still enormous consumption of alcohol in England to fall on those pitiable fools who think it a harmless if not a healthy thing, and supply the statistics of our gaols and workhouses.

COCAINE IN RECTAL SURGERY.

COCAINE seems destined to play an important part in the treatment of painful affections of the rectum and genito-urinary system. Dr. Bettelheim of Vienna reports the case of a man, aged seventy-four, who had well-marked anginal attacks, the result of atheroma of the aorta and ossification of the coronary arteries. For some time he had, in addition, complained of rectal and vesical tenesmus. Percussion over the bladder showed that it was not dilated, and rectal examination demonstrated the fact that the prostate was much enlarged and probably the cause of the trouble. Cacao butter suppositories were ordered, each containing half a grain of muriate of cocaine. One of these was introduced into the rectum at bedtime, and the patient slept

well, and was not troubled during the night. The beneficial effects were apparent the whole of the following day. The suppository was not given that evening, and the patient passed an uncomfortable, restless night. The next day another suppository was ordered, and acted as well as the first. From the promptness and efficacy of the cocaine in this case, a brilliant future may be anticipated for the alkaloid in this department of surgery. It is now being largely used in many of the London hospitals in the treatment of piles, fissure, and fistula.

A JAPANESE NATIVE VILLAGE IN LONDON.

AT Humphreys Hall, Albert Gate, is now to be seen a complete Japanese village erected and occupied by natives of Japan. A considerable number (about 100) of Japanese people, of various trades and professions, have been brought over to this country with the object of familiarising us with their social customs, arts, industries, amusements, and even their religion—at least so far as regards a Buddhist temple, containing genuine idols and attended by two Japanese priests, can afford an idea of its mysteries. In the shops and houses of the village Japanese artificers pursue their various callings, embroidering, fan-making, china-painting, metal-working, screen-painting, umbrella-making, shoe-making, &c. In a theatre attached to the village various performances are given, such as fencing, wrestling, dancing by Japanese girls to the music of a native orchestra, and juggling. The Exhibition is an interesting one, and well worth a visit. By the way, the Japanese have for some time shown their appreciation of English medical education by sending over students to our hospitals. Some years since, if we remember rightly, a Japanese gentleman was house-surgeon to, and held other appointments at, St. Thomas's Hospital. Mr. Tannaker Buhicrosan, the promoter and managing director of the Exhibition, intends to hand over the proceeds to his wife, a Japanese lady who, a Christian herself, intends to conduct a mission to Japan for the purpose of propagating Christianity in, and reforming the marriage laws of, her native country.

POISONED "SLEEP" AND DEATH.

ANOTHER sad case of "death by misadventure"—which phrase is rapidly coming to mean "poisoning with a narcotic"—draws attention to the folly of persisting in the refusal to treat sleeplessness as wakefulness. In this instance the victim was a member of our profession, Mr. Lionel John Shepherd, L.R.C.P., M.R.C.S., house surgeon at Poplar Hospital. The deceased had formed a habit of reading at night, and his over-taxed and weary brain could not sleep, so that Mr. Shepherd had recourse to narcotics. Taking an overdose accidentally, the poison did more mischief than simply stupefying him—its action was carried a little too far, and he died. The painful misadventure is much to be deplored; and not less is the course of treatment in which it occurred to be regretted also.

THE CASE OF THE CONVICT BRIGGS.

IN the *Grimsby News* of Jan. 2nd there is published a long letter from Dr. Ewing Whittle, criticising the medical evidence given at the trial of the husband of Thirza Briggs. We have already commented on this case. Dr. Whittle adduces other reasons in support of the theory of death from natural causes, to most of which we unhesitatingly subscribe. It is not necessary to give Dr. Whittle's argument in detail, considering, as we do, that more than enough has been elicited to warrant the Home Secretary ordering a full investigation of the case in its medical bearings.

TUBERCULAR INFECTION FROM SEXUAL CONNEXION.

IF tubercle be contagious, whether of bacillary origin or not, there is no reason why sexual connexion should not sometimes be the means of communicating the disease. But a clear proof of such an occurrence would be difficult to find, even were there no doubt of the nature of tubercle. Tubercle being contagious, the possible routes by which it infected would be so numerous that absolute demonstration could only be made in the experimental laboratory. M. Fernet, at a recent meeting of the Société Médicale des Hôpitaux, maintained that the infection of tubercle could take place either from the man or from the woman. The cases which he brought forward as substantiating his views were some in which the disease of the genitals was the most prominent, and probably the first lesion in the body, and in which the history showed that the tubercular disease began soon after sexual connexion with an individual the subject of tubercular disease of the genitals. Such a concurrence of events no doubt points strongly, though not conclusively, in the direction indicated by M. Fernet.

CERTIFICATION OF INFECTIOUS DISEASE AT HASTINGS.

THE medical profession at Hastings will do well to look narrowly to the new Bill which is proposed to confer additional powers on the Corporation of Hastings in regard to infectious cases. By one section of the Bill every medical practitioner attending such a case is forthwith to fill up, sign, and deliver or send to the medical officer, a certificate stating *the name of the patient, the situation of the building, the name of the occupier*, and the nature of the infectious disease. This is an intolerable burden to impose on medical men, even for the handsome remuneration of 3*s.* 6*d.* It ought to be resisted in every constitutional way. It is contrary to the public interest to convert busy and responsible medical men into clerks of the Corporation. We shall hope to hear of their united and determined opposition to making reports which should clearly come from the householder.

USE OF COCAINE IN LITHOTRITY.

WE understand that a lithotrity, with rapid evacuation of the fragments (Bigelow's operation), was performed under cocaine at the St. Peter's Hospital on Thursday last, with perfect success. The bladder was injected with half an ounce of a 4 per cent. solution of cocaine, and the operation was begun and completed *painlessly* in a quarter of an hour.

THE RELIGIOUS NEWSPAPERS AND QUACK ADVERTISEMENTS.

SOME of the best friends of religious newspapers, and even of missionary journals, are becoming seriously scandalised at the growth of the advertising of quack medicines in their columns. The feeling of disgust is not confined to the medical profession; nor, we must admit, is the scandal of quack advertisements confined to the class of papers in question. But the scandal is most striking and most unseemly in them. When a man sees in his religious newspaper an advertisement of a man or a medicine as pretending to cure a disease in his child or his wife beyond the bounds of the medical art, the pretension being backed perhaps by a great name, he is apt to yield to the temptation, and when the coarse pretension is refuted by the death of the patient he has a sense of injury. Such advertisements are questionable in any paper; but in those organs of the press which are supposed to represent "whatsoever things are

true" they are a positive offence. We appeal to our contemporaries to consider this representation, and to believe it made to them in no narrow professional spirit.

THE chairman of the Dundee Parochial Board at the monthly meeting on the 6th inst., replying to a deputation from the Aberdeen City Parochial Board on the subject of accommodation for pauper lunatics, stated that Dundee was in the same difficulty as Aberdeen in regard to finding accommodation for their lunatic poor; and after some discussion a committee was appointed to consider the matter, and if they saw fit to join the Aberdeen Board in a memorial to the Lord Advocate for an affirmation of the principle that parochial boards, if they consider it desirable, can build asylums of their own.

IT is with regret we have to record the death of Dr. William Rowlatt of Paris, at the early age of thirty-one. The melancholy event took place on Dec. 2nd last, during his voyage home from Australia in the *Melbourne*. Dr. Rowlatt was a young physician of great promise, and was an occasional contributor to our pages.

WE regret to have to record the death of Dr. H. T. Lanchester at his residence, Park House, Croydon, aged forty-seven. Dr. Lanchester, who was chairman of the Finance Committee of the Croydon School Board, and Physician to the General Hospital, was formerly in partnership with Dr. Alfred Carpenter.

THE Italian Senate after two days' debate adopted on the 11th inst., by 96 votes against 21, a Bill for improving the sanitary condition of Naples. A sum of 100,000,000 francs is to be expended during the next ten years upon the work, which will be carried out under the direction of the Government.

DR. E. BUCHANAN BAXTER, late Professor of Materia Medica and Therapeutics at King's College, and Physician to the Hospital, died on Wednesday last, after a prolonged and painful illness. We hope next week to publish a sketch of the life and work of this lamented physician.

THE discussion at the Royal Medical and Chirurgical Society on Dr. Kidd's paper on the Distribution of the Tubercle Bacilli in the Lesions of Phthisis has been adjourned to a special meeting of the Society, to be held on Wednesday, January 21st, at 8.30 P.M.

A LETTER of sympathy, signed by upwards of 200 of the principal residents of the village of Solihull, has, we learn, been presented to Dr. E. S. Page.

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

[SECOND NOTICE.]

IT will be remembered that in the Report of the Medical Officer of the Local Government Board for 1882-83, Dr. Burdon Sanderson referred to the conditions under which spontaneous determination of the septic process took place, especially as the result of the coming into existence of chemical bodies in the liquid dealt with; the bodies in question being acids of the aromatic group. Dr. Buchanan also stated that, in connexion with researches which he had organised as to disinfectants, sustained work would be commenced with a view of ascertaining the behaviour of some better known contagia in presence of various colytic agents. Dr. Sanderson, in the recently issued report, gives the results of further experiments in connexion with this subject, and referring to phenyl-propionic and phenyl-acetic acids—aromatic acids of the acetic series—he states that they are both superior to carbolic acid in their influence of rendering a cultivation liquid unfit for the growth of bacteria, and that of the two phenyl-propionic acid is the more active. Dr. Klein, who has been associated with Dr. Sanderson in this work, has now inquired into their value as disinfectants, and Dr. Sanderson summarises the conclusions arrived at by explaining that although both bodies possess to a very marked degree the power of killing morbific microphytes, the higher of the two acids, phenyl-propionic acid, has been found to be the more powerful.

Dr. Klein experimented with the two acids in question to ascertain their influence on definite bacteria, whether having pathogenic properties or not. So far as pathogenic bacteria are concerned, the bacilli of anthrax, swine-plague, and tubercle were selected. After detailing his method of action, Dr. Klein explains that in order to pronounce a particular substance a germicide, it is necessary to show that the substance acting on the organisms destroys their life, and hence incapacitates them under all circumstances from producing either a new brood or the disease which before they were capable of starting. With regard to non-specific organisms, Dr. Klein dealt, first, with the small spherical micrococcus derived through blood of healthy rabbits, but he found that both the phenyl-propionic and the phenyl-acetic acids proved powerless to destroy it. The large spherical micrococcus derived from the same blood was next dealt with, the same failure being observed; and a similar result ensued with the bacterium termo and the bacillus subtilis cultivated in pork broth. The bacillus anthracis was next experimented on, this bacillus having been selected, as Dr. Buchanan explains, because there is no acute infective disease of man or animal the etiology and pathology of which is so well understood as that of anthrax, because the characteristic symptoms it produces during life cannot be mistaken, because its causative relation to a microphyte is beyond dispute, and because its contagium has the advantage of being known to exist in two phases. Where this contagium was dealt with in the form of spores, and was exposed for as long as forty-eight hours to a solution of the two acids, having a strength of 1 in 200, no result was produced, the report explaining that the spores thus experimented on still remained capable of communicating the infection of anthrax to guinea-pigs on inoculation. When, however, bacilli free from spores were experimented on, a satisfactory result ensued, the virulence of the infection was completely destroyed, and it was evident that the destruction was final. A solution of phenyl-acetate or of phenyl-propionate only containing 1 in 2000 of the salt sufficed to produce this result after an exposure of from twenty to thirty minutes, and stronger solutions served the same end in much less time. In the case of the swine-fever virus much the same results followed. The experiments were also extended to the tuberculous virus, the human and bovine virus being separately dealt with, but the desired result was not attained; turberculous matter, as Dr. Buchanan puts it, appearing to be in its power of resistance to these particular "disinfectants" comparable with bacillus anthracis in its phase of spore rather than with its filaments or rods. As yet Dr. Klein, who has been aided by Mr. Lingard in this part of his experiments, has not tested the behaviour of tubercle bacilli towards the two acids under consideration. Incidentally, however, an interesting experiment was made with a view of ascertaining how far the process of boiling affected the activity of the virus of tubercle as it exists in tuberculous sputum. The sputum being mixed with 0·6 per cent. solution of common salt was boiled for as long a period as ten minutes; but on inoculation into guinea-pigs it produced the same nodular enlargements of the inguinal glands which follow on the inoculation of the unboiled sputum.

Whilst dealing with the virus of swine-plague a further experiment was made by Dr. Klein, which goes to indicate the value of chlorine as an air disinfectant. In a series of cases he produced swine-plague in a pig, and when the animal was in a state which is known to be capable of conveying the infection to another pig by means of the surrounding air, the air in the stable in which the diseased pig was placed was made pungent with chlorine gas, and a second pig was made to occupy an

adjoining stall, the experiment with the second pig being repeated over and over again. The healthy pigs were, as a rule, exposed for six hours each day during several days, and when the evolution of chlorine was repeated at the end of the first three hours no harm resulted to them; but the failure in one case thus to keep the air in the stable thoroughly pungent with chlorine resulted in the disease being conveyed to one of the hitherto healthy pigs.

These experiments are probably the most precise which have been recorded as to the value of aerial disinfectants, and they are regarded as so far satisfactory that the medical officer to the Board announces that they will be repeated and developed on a larger scale, "in the hope of obtaining some available guides for actual sanitary practice."

Reverting to the experiments which Dr. Klein recorded in last year's report as to the mitigation of poisons by attenuation, it is still evident that the results which were promised by M. Pasteur are not achieved by the adoption of his methods, but it would appear highly probable that a change in the power of an infective organism, authrax for example, is produced as the result of its passage through different species of animals. Some further information is also supplied in the report as to pathological researches in connexion with tubercle.

Although Dr. Buchanan is unable to announce that any practical conclusion has as yet been arrived at in regard to either of the scientific branches of investigation which are being carried out under his supervision, it is probable that no subjects could be indicated concerning which extended knowledge of a precise sort would be likely to prove of greater value in connexion with the prevention of disease than those which are dealt with in this portion of his report, and it must be remembered that although the process of discovery in such matters is perhaps the more slow because the workers employed so well know the pitfalls that have to be avoided, yet at every stage some valuable information is procured which serves to direct others who are labouring in similar directions. From this point of view alone the report under consideration has a special value.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

A SPECIAL general meeting of the Fellows was held on the 10th instant, presided over by Mr. E. H. Bennett, to consider alterations in the Supplemental Charter and Bye-laws of the College as proposed by the Council. A notice of motion by Dr. Brunker in reference to the election of Council by ballot papers was ruled by the President as unnecessary, having already been adopted by the College. Mr. Mapother moved that Clause 5, as amended by the Council, should be adopted. The clause had reference to the chairman of the day at any meeting having a casting vote in case there should be an equal number of votes recorded. This was seconded by Mr. Gore, but Mr. Hamilton thought it placed in the hands of the chairman a very grave and great responsibility, and might have a prejudicial effect. Mr. Mapother was willing to admit the rule in the case of the chairman of a meeting of Council, which was accepted by Mr. Hamilton and adopted. Clause 7 had reference to Bye-laws hereafter made being approved by his Excellency the Lord Lieutenant instead of by the Secretary of State. Dr. Cameron, Vice-President, who moved its adoption, said it would save expense and trouble. Mr. Corley seconded it, and it was passed. Clause 11: By this clause professors and lecturers are prohibited from being examiners. The Council recommended the propriety of cancelling this prohibition; no examiner to hold office for more than three consecutive years, and not more than two teachers connected with any one school or hospital to be eligible for seats on the Board of Examiners. Proposed by Mr. Wharton, seconded by Mr. Corley, and adopted. Clauses 12 and 13 had reference as to the election of Council by ballot papers, and their adoption was proposed by Dr. Brunker, seconded by Dr. Robinson, and passed. Clause 19 was proposed to be amended by adding that candidates for letters testimonial of the College should satisfy the Council that they were of good moral character. Proposed by Mr. McGusty, seconded by Mr. Wharton, and adopted. Clause 19: Mr. Mapother moved that candidates who possessed other qualifications in medicine and surgery than that of the College should be permitted to be examined for the diploma in midwifery. This was seconded by Mr. Nixon, and passed.

The next business had reference to the admission of women to the diplomas of the College. In considering in committee the changes of Charter proposed by the Education Committee, the Council resolved, "That a new clause be inserted, to provide that all provisions of the Charters, Bye-laws, and ordinances as to education, examination, and granting of diplomas to Fellows or Licentiates shall extend to include women." Dr. Cameron (Vice-President) thought the suggestion of the Council should be adopted, and that it was necessary to pass it if they intended to join the College of Physicians for a conjoint diploma. Although he did not consider women eligible for the surgical part of the profession, yet he thought the College should not prevent them obtaining a surgical qualification, if they so desired. He proposed the adoption of the resolution, which was seconded by Sir Robert Jackson. Mr. Hamilton said he wished to amend the clause by leaving out the term "Fellow." He thought they satisfied the demand of the public by throwing open the College to women. The amendment was seconded by Mr. Joliffe Tufnell. Mr. P. C. Little thought that any Licentiate, according to the Charter, was eligible for the Fellowship. Dr. Kidd supported Mr. Hamilton's amendment, and considered it the duty of the College to admit women, and it was wrong to throw any impediments in their way; on the contrary, they should remove all obstacles. At the same time he thought it a mistake on the part of ladies to join the profession. He believed that it was the intention of Government that women should, as well as men, be entitled to all the advantages of admission to the medical profession. Mr. Wharton agreed with Mr. Little, and asked could the President receive the amendment. The President ruled that the amendment applied to a change in the Charter, and could be received. Mr. Jacob thought it discretionary on the part of Council to refuse admission to the Fellowship; and Mr. Thomson thought it illogical, if women were admitted Licentiates, to refuse them the Fellowship. Mr. Martin considered the Fellowship admitted to the corporate rights of the College, and therefore did not think it advisable, for that reason, to admit women to the higher qualification. Mr. Corley spoke in favour of the proposal to admit women, and thought, sooner or later, they would have to adopt the example of the College of Physicians. On the amendment being put, the President decided the ayes had it, but on a division being demanded it was lost by eighteen to fourteen votes. The original resolution was ultimately adopted by twenty-five to eleven votes.

THE OUTBREAK OF SMALL-POX AT THE THREE COUNTIES ASYLUM.

WE are indebted to Mr. Swain, Medical Superintendent of the Three Counties Asylum at Arlesey, for particulars of the recent serious outbreak of small-pox at that institution. It would appear that the disease suddenly manifested itself almost simultaneously in three different wards. The first case was suspected on December 11th in the person of a patient, a young woman suffering from secondary dementia, who had been resident in the asylum for two years. She gave no warning of her illness, and the first evidence of her condition was the presence of a papular eruption. She was immediately isolated; on the following day six other patients and two nurses showed symptoms of having been attacked, and in five days it was found that forty persons were infected. These were all removed to the detached hospital connected with the asylum as soon as suspected. The attack then seemed to abate, and the cases occurred at intervals and in much fewer numbers till the total reached fifty-six, at which it now remains. By the 17th a large quantity of guaranteed lymph had been procured, and on this and the following three days the entire number of patients and staff (about 1200 persons) were vaccinated. To this fact Mr. Swain attributes the checking of so sudden and so general an onslaught of the disease.

The patients attacked were chiefly amongst the feeble and demented, two being general paralytics and a large proportion epileptics. The disease assumed a malignant form in many cases; and the number of deaths, fourteen, has been consequently high. Amongst these were two

patients aged seventy-one and eighty-six years respectively, one general paralytic, and several unvaccinated. One nurse, who had not been vaccinated as a child, contracted the disease and died. There were five nurses in all attacked. The cases occurred chiefly amongst those sleeping in a large associated dormitory, where patients mostly epileptic and suicidal are kept under continuous observation. There has been only one case on the male side. Those remaining in the hospital are progressing favourably, and it is hoped that the outbreak has been successfully checked.

The source of infection, notwithstanding the closest investigation, remains a mystery; but it may be worth mentioning that one of the local newspapers reports the fact that a person with small-pox eruption actually out on him was refused admission into a London hospital as there was no room, and was allowed to depart and travel down by the Great Northern line to a neighbouring village, where since there have been six cases with two deaths.

MAHOMED MEMORIAL FUND.

THE following additional subscriptions have been either received or promised:—

	£	s.	d.		£	s.	d.
[1]G. B. Allen, Esq.	5	0	0	W. C. Low, Esq.	5	5	0
Miss Beale	2	2	0	Edward Lund, Esq.	10	10	0
Dr. Biss	2	2	0	Dr. Leech	5	0	0
Dr. Brailey	3	3	0	C. Lamb, Esq.	2	2	0
His Honour Judge Chalmers	5	5	0	J. M. Maidlow, Esq.... ...	10	10	0
Dr. Carrington	5	5	0	James Matthew, Esq. ...	3	3	0
The Earl of Devon	1	0	0	John Mackern, M.B. ...	5	5	0
T. D. Galpin, Esq.	2	2	0	Mrs. Nathaniel Montefiore	21	0	0
J. F. Gandar, Esq.	2	2	0	Edward Norman, Esq. ...	5	0	0
R. Gayler, Esq.	1	1	0	[1]W. B. Owen, Esq.	1	1	0
R. Gibbs, Esq.	1	1	0	Dr. Edward Penny	2	2	0
Dr. Clement Godson ...	5	5	0	Dr. Slight	2	2	0
[1]C. Hilton Golding Bird, Esq.	15	15	0	Dr. Burdon Sanderson ...	10	0	0
Charles Higgens, Esq. ...	5	0	0	Dr. Simon (Birmingham)	1	1	0
E. G. Hunt, Esq.	1	1	0	[1]Dr. Eustace Smith	5	5	0
M. S. Joseph, Esq.	2	2	0	Dr. Trend	1	1	0
T. J. Kent, Esq....	2	2	0	Dr. Charlewood Turner ...	5	5	0
W. Keiller, Esq....	2	2	0	Edward T. Western, Esq.	2	2	0
John Lane, Esq....	2	2	0	[1]Dr. W. Wood	25	0	0
				G. A. Wright, Esq.	2	2	0

ARTHUR E. DURHAM, Treasurer.
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VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 6376 births and 4255 deaths were registered during the week ending the 10th inst. The deaths showed an increase of 60 upon the number in the previous week, and were equal to an annual rate of 24·9 per 1000 of the estimated population of these towns in the middle of this year, against 20·2 and 25·0 in the preceding two weeks. During the thirteen weeks ending the 27th ult. the death-rate in these towns averaged 21·4 per 1000, against 23·0 and 21·2 in the corresponding periods of 1882 and 1883. The lowest rates in these towns last week were 19·0 in Bolton, 19·1 in Brighton, 19·6 in Sheffield, and 20·4 in Bradford and in Derby. The rates in the other towns ranged upwards to 30·9 in Manchester, 31·0 in Leicester, 34·8 in Preston, and 36·0 in Cardiff. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had been 311 and 375 in the previous two weeks, were 372 last week; these included 38 from measles, 51 from scarlet fever, 42 from diphtheria, 37 from "fever" (principally enteric), 36 from small-pox, and 27 from diarrhœa. No death from any of these zymotic diseases was recorded last week in Birkenhead, whereas they caused the highest death-rates in Leicester, Wolverhampton, and Cardiff. The greatest mortality from whooping-cough was recorded in Sheffield and Wolverhampton; from measles in Newcastle-upon-Tyne, Leicester and Cardiff; from scarlet fever in Leeds and Halifax; and from "fever" in Newcastle-upon-Tyne. The 42 deaths from diphtheria in the twenty-eight towns included 26 in London, 4 in Bristol, and 3 in Liverpool. Small-pox caused 48 deaths in London and its outer ring of suburban districts, 1 in Liverpool, and 1 in Newcastle-upon-Tyne. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had been 1079 and 1013 on the preceding two Saturdays had further fallen to 1001 at the end of last week; the admissions, however, which had been 244, 161, and 171 in the previous three weeks, rose again to 224 last week. The Highgate Small-pox Hospital contained 87 patients on Saturday last, against 92 at the end of the previous week; 22 cases were admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 416, 370, and 537 in the preceding three weeks, further rose to 609 last week, and exceeded the corrected weekly average by 93. The causes of 113, or 2·7 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, and Leicester, and in six smaller towns. The largest proportions of uncertified deaths were registered in Oldham, Huddersfield, Salford, and Birkenhead.

[1] Omitted from previous lists.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 26·9, 29·6, and 30·7 per 1000 in the preceding three weeks, was 30·5 in the week ending the 10th instant, and was 5·6 above the mean rate during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 20·2 and 20·5 in Paisley and Leith, to 34·9 in Perth and 35·5 in Glasgow. The 744 deaths in the eight towns included 30 which were referred to whooping-cough, 26 to measles, 16 to diarrhœal diseases, 12 to scarlet fever, 5 to diphtheria, 5 to "fever," and not one to small-pox; in all, 94 deaths resulted from these principal zymotic diseases, against 110 in each of the preceding two weeks. These 94 deaths were equal to an annual rate of 3·9 per 1000, which exceeded by 1·7 the mean rate from the same diseases in the twenty-eight English towns. The 30 deaths from whooping-cough exceeded the number returned in recent weeks, and included 16 in Glasgow, 5 in Perth, and 3 in Edinburgh. The fatal cases of measles, on the other hand, which had been 34 and 38 in the previous two weeks, declined to 26 last week, of which 19 occurred in Glasgow and 5 in Dundee. The 16 deaths attributed to diarrhœa considerably exceeded the numbers in recent weeks, and were 7 above the number in the corresponding week of last year. Of the 12 deaths from scarlet fever, showing a further decline from the numbers in the preceding two weeks, 8 occurred in Glasgow and 2 in Edinburgh. Four of the 5 deaths from diphtheria were returned in Glasgow, and the 5 from "fever" were fewer than in any recent week. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 174 and 203 in the previous two weeks, were 198 last week, and were 53 above the number returned in the corresponding week of last year. The causes of 92, or more than 12 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 34·1, 26·6, and 38·5 per 1000 in the preceding three weeks, declined again to 31·2 in the week ending the 10th inst. During the thirteen weeks ending the 27th ult. the death-rate in the city averaged 29·4 per 1000, the mean rate during the same period not exceeding 19·8 in London and 19·7 in Edinburgh. The 211 deaths in Dublin last week showed a decline of 48 from the high number in the previous week, and included 19 which were referred to the principal zymotic diseases, against 13 and 24 in the previous two weeks. Of these 19 deaths, 6 resulted from scarlet fever, 5 from "fever" (typhus, enteric, or simple), 3 from measles, 2 from diphtheria, 2 from whooping-cough, 1 from diarrhœa, and not one from small-pox. They were equal to an annual rate of 2·8 per 1000; the rate from these diseases last week being equal to 2·0 in London and 1·9 in Edinburgh. The fatal cases of scarlet fever and of "fever" showed a decline from the numbers returned in the previous week. The deaths from whooping-cough and diphtheria, on the other hand, were more numerous. Six inquest cases and 5 deaths from violence were registered within the city, and 70, or a third of the deaths, were recorded in public institutions. The deaths of elderly persons showed a further

increase upon recent weekly numbers, while those of infants had declined. The causes of 29, or more than 13 per cent., of the deaths registered during the week were not certified.

MORTALITY IN LARGE ENGLISH TOWNS IN 1884.

The average death-rate during the fifty-two weeks ending 27th ult. in the twenty-eight large English towns, including London, dealt with in the Registrar-General's weekly return was equal to 21·5 per 1000 of their population, estimated at 8,762,354 persons in the middle of last year. This rate was slightly lower than the rates recorded in these towns in 1882 and 1883, which were 22·3 and 21·6. In London the rate last year did not exceed 20·3, while it averaged 22·6 in the twenty-seven provincial towns, having an aggregate population somewhat exceeding that of London. The recorded rates in these provincial towns ranged from 17·8 and 18·4 in Brighton and Bristol, to 26·4 and 27·2 in Manchester and Preston. The sex and age proportions of the populations in these towns, however, vary widely, and it is necessary to take account of such variations before using the rates of mortality in the several towns as trustworthy measures of the health of the different communities. The Registrar-General in his last annual summary for 1883 published the factors for correcting the recorded death-rate in each of these towns for differences in the sex and age constitution of their populations. By applying these factors to the mean recorded death-rates in the fifty-two weeks ending December 27th last, corrected death-rates are obtained which are trustworthy for comparative purposes as a measure of the health of the several towns during 1884.

Death-rates in 1884.

Towns.	Death-rate per 1000 living. From all causes. Recorded.	Corrected.	From principal zymotic diseases.
Twenty-eight towns ...	21·5	22·9	3·5
Brighton	17·8	18·3	1·7
Bristol	18·4	19·0	1·8
Derby	18·4	19·1	2·3
Portsmouth	19·3	19·8	3·0
Norwich	21·0	20·1	3·1
Birkenhead	19·4	20·7	2·3
Plymouth	21·1	21·0	2·0
London	20·3	21·3	3·4
Huddersfield	19·6	21·5	1·8
Hull	21·1	21·8	3·6
Bradford	20·1	22·2	2·4
Birmingham	21·4	22·8	3·9
Leicester	22·0	23·0	4·1
Sheffield	22·4	24·1	4·2
Sunderland	23·1	24·1	3·6
Salford	22·2	24·2	4·3
Nottingham	22·9	24·3	3·9
Newcastle	23·0	24·3	3·2
Wolverhampton	23·7	24·4	3·9
Halifax	23·4	25·4	2·4
Leeds	24·2	25·9	4·9
Blackburn	24·0	26·2	4·1
Cardiff	24·2	26·3	4·7
Bolton	24·1	26·4	4·4
Oldham	24·5	27·2	3·5
Liverpool	25·2	27·6	4·5
Manchester	26·4	29·4	3·7
Preston	27·2	29·5	5·2

The figures in the accompanying table are instructive, the towns being arranged in the order of their corrected death-rates from the lowest. It will be observed, however, that the order of the recorded rates differs but slightly from that of the corrected rates, showing that the crude death-rate per 1000 living may be accepted as a fairly approximate test of the health condition of a population, when the means for correction are not readily available. The excess of mortality due to urban aggregation is, however, almost always understated if town death-rates are not corrected for the abnormal age constitution of urban populations. The lowest corrected rates for last year were 18·3 in Brighton, 19·0 in Bristol, 19·1 in Derby, and 19·8 in Portsmouth; whereas five Lancashire towns appear at the bottom of the list: Bolton, 26·4; Oldham, 27·2; Liverpool, 27·6; Manchester, 29·4; and Preston, 29·5. In the last column of the table is given the death-rate in each town from the principal zymotic diseases, which ranged from 1·7 in Brighton and 1·8 in Bristol and Huddersfield, to 4·7 in Cardiff, 4·9 in Leeds, and 5·2 in Preston. Although the zymotic rates do not run in the same order as the corrected rates, there is a general agreement between them, and excessive zymotic fatality accounts for a considerable proportion of the excessive death-rates from all causes. Brighton, indeed, has the lowest corrected death-rate and the lowest zymotic rate, while Preston is absolutely at the bottom of the list, whether judged by its corrected death-rate from all causes or by its death-rate from the principal zymotic death-rates. The excessive mortality in Manchester and Preston, maintained year after year, entails serious responsibilities upon the sanitary authorities of those towns. It is noteworthy that six of the seven Lancashire towns (included in the twenty-eight towns) appear among the seven at the bottom of the list. Salford takes a higher place, standing in the sixteenth place from the top. The health of Salford has markedly improved in recent years, but its death-rate is probably favoured by the fact that its population consists in great measure of the outgrowth of Manchester; in fact, the two municipalities form one city, and should be under one sanitary organisation.

Correspondence.

"Audi alteram partem."

THE IMPROVED SANITARY STATE OF FORT WILLIAM.

To the Editor of THE LANCET.

SIR,—The letters of Deputy Surgeons-General Marston and De Renzy on the extinction of cholera epidemics in Fort William, with some remarks on the same subject by Professor Pettenkofer,[1] lead me to believe that I can throw some light on the origin of the improved medical history of the garrison of that fortress, which is rightly regarded by Dr. Marston as instructive, interesting, and deserving of exhaustive investigation.

I was myself quartered in Fort William in 1840, when in temporary medical charge of the 21st Royal North British Fusiliers, to which regiment I was attached when it was in a most sickly state; and I had an opportunity in 1858, a quarter of a century since, of carefully and minutely examining its eminently insanitary condition, as I will now proceed to narrate as briefly as possible.

My friend, Lieut.-Col. (now General Sir Orfeur) Cavenagh, was at that time Town Major of the Fort, and under his skilled and untiring guidance I visited every part of the fortress, and scrutinised carefully every structural and other arrangement connected with it which appeared to have any direct relation to the health of the garrison, and the lamentable amount of preventable sickness which had long prevailed among the troops, native and European. To the Sipahis duty in the fort was at that time almost a terror, as I found when I joined the 47th Native Infantry at Barrackpore, and it was the turn of my regiment to furnish the native guard. Nearly every man told off for the duty feigned sickness to escape it, as they averred on account of its great unhealthiness, a dread I afterwards found to be by no means ill founded.

In May, 1858, Dr. E. Campbell, then garrison surgeon, brought to the notice of the military authorities certain grave defects in the drainage, conservancy, and some other arrangements of the fort, which he believed to exercise a prejudicial influence on the health of the troops, and he suggested measures for their improvement.

The soundness of Dr. Campbell's views, and the accuracy of some of his statements, as well as the feasibility of the remedies he proposed, were questioned by the garrison engineer and town major, while both admitted the great desirability and importance of removing effectually every cause of unhealthiness found to exist in the enceinte of the fortress. They differed from him chiefly as to the right methods of dealing effectually with them. In these circumstances the Government of India appointed a special

[1] THE LANCET, January 3rd, 1885, and December 13th, 1884.

committee to examine and report as speedily as possible upon the question.

The committee consisted of Colonel Paton, Deputy Quartermaster-General of the Army, Staff-Surgeon (now retired Inspector-General) James Anderson, and myself, who then occupied the office of Inspector-General of Prisons. Dr. Anderson was well acquainted with the fort, having had charge of the 2nd European Fusiliers when in the garrison, and I then possessed a less intimate acquaintance with it, as mentioned above. The committee was appointed in July, 1858, and, after much consideration and examination, submitted a report of the results of their inquiry early in September of the same year. The matters specially inquired into were the drainage of the fort, its water-supply, and conservancy arrangements, which were all found to be extremely defective. The objectionable state of all these was detailed, and remedies were suggested for their improvement. The strength of the garrison at that time, including all hands, was 5170 souls.

We recommended that the garrison surgeon and assistant-surgeon should be *ex-officio* the sanitary officers of the fort, and bring all matters affecting its healthiness to the immediate notice of the military authorities. Dr. Campbell had proposed a special sanitary officer, a view in which we were unable to concur, as it was clearly a part, and a very important part, of the duties of the garrison medical staff. Our conclusions included the entire reconstruction of the drains and relevelling of the enceinte of the fort, so as to secure the removal of all impurities at once; the extension of the water-supply of the garrison by the formation of special tanks or reservoirs for the storage of water for drinking and cooking, and by the pumping up and filtration, with the aid of steam-power, of a sufficiency of river water for all cleansing and conservancy purposes; the provision of a plunge-bath, and the reconstruction of the latrines and lavatories; the reduction of the vegetation in the fort; the more free use of charcoal as a deodorant and disinfectant; an entire change in the urinals, and the daily removal of all excrementitious matters; improvements in the garrison cells; the ordure of the fort, which was not carried off by the *Cunette*, to be transported to a distance down the river in a properly constructed covered filth boat; and the *Cunette* being strictly confined to its proper use in time of peace, and more thoroughly cleansed and scoured than it then was.

The cordial thanks of the Government of India were conveyed to the committee for the thorough manner in which the duty was performed and for the clear and able manner in which the results of their investigation were embodied in the report.[2] Immediate orders were issued to the Public Works Department to carry out all the recommendations that were practicable with the least possible delay, and thus commenced measures which have not since been relaxed, to secure the healthiness of Fort William. The table printed by Dr. Marston shows how quickly the good effects of those measures were experienced as respects cholera, and that it preceded by several years the introduction of the filtered water of the Calcutta Municipality. I entirely concur with that officer in considering that the improvement of the health of the troops in Fort William was due to sanitary improvement all round, and not to any single cause, however important.

I may possibly take another opportunity of stating my views on the cholera portion of the question, for I recently had an opportunity of again seeing that disease in Paris during the present epidemic, when I found not the smallest difference between its ordinary course and characteristics as I witnessed them half a century ago in the same city, and as I found them a few weeks since.

The pathology of cholera is still a sealed book, and until the mystery of its origin is revealed we must, I am afraid, be content to rely on prophylactic measures to prevent its introduction or extension. These were as well understood thirty years ago as they are now, as can be proved from published records, should it be necessary. Continental nations are now realising the inefficacy, and even danger, of quarantine regulations as they are, and can only be carried out. The circulars recently issued on the subject at home and abroad have added nothing whatever to our knowledge of the matter, and are not likely to do so in existing circumstances.

I am, Sir, yours faithfully,

F. J. MOUAT, M.D.

Durham Villas, Kensington, W., Jan. 5th, 1885.

[2] Minute of Military Department, Government of India, Oct. 7th, 1858.

FRACTURES OF THE SKULL, FOLLOWED BY COLLECTIONS OF CEREBRO-SPINAL FLUID BENEATH THE SCALP.

To the Editor of THE LANCET.

SIR,—Since my friend Mr. Godlee has directed attention to my papers on this rare condition, and has brought before the Pathological Society two cases bearing upon the subject, I should be glad to be allowed to make a few further comments on the circumstances with which this phenomenon is associated. My four short papers have been published in the Guy's Hospital Reports for 1876, 1878, 1881, and 1884, and have hitherto (as Mr. Godlee suggested) escaped the notice of the profession in this country, though the first case attracted the attention of Professor Verneuil in Paris, who published some comments upon it. In these papers I gradually arrived at more decided opinions, and in my later papers I ventured on two definite conclusions—viz.: 1. That simple fractures of the skull, followed by tumours of cerebro-spinal fluid beneath the scalp, occur only in children. 2. That when cerebro-spinal fluid escapes in quantity from the vertex (whether the fracture be simple or compound) the ventricle of the brain has been laid open. The first of these conclusions is borne out by the record of all the published cases, and I reasoned out its truth for the future in the following way: The skulls of children are flexible, and when the bones are fractured the edges of the fracture may be driven far into the brain without damage of the scalp. In adults, on the other hand, owing to the rigidity of the bones, one fractured edge will almost certainly cut through the scalp before the other can penetrate far into the brain.

The second conclusion, though contrary to the ordinary teaching, which supposes that in the majority of cases cerebro-spinal fluid escapes from the subarachnoid space, is nevertheless supported by all post-mortem evidence; and I would here suggest that in suspected cases, to prevent error after death, the brain and its covering ought to be hardened for some months in spirit (as was done in both my cases) before being examined. Again, compound fractures of the skull, with injury to the brain and without escape of cerebro-spinal fluid, are common, the reason of this being that the subarachnoid space on being injured rapidly throws out a greenish solid lymph, which glues up its cavity.

I would submit that neither of Mr. Godlee's interesting cases was a true case of cephal-hydrocele, and that they ought not to be included in any table of such cases. In neither was the fluid withdrawn, the clear, faintly albuminous, watery, cerebro-spinal fluid, though it would appear from the post-mortem examination in the first case that the conditions were present which might eventually have led to such a tumour being formed after the blood and inflammatory products had been absorbed.

The pulsation of a tumour beneath the scalp will occur whenever there is a direct and free communication through the bone between the tumour on the outside and the contents of the skull, whether that tumour be soft, solid, cerebro-spinal fluid, serum, or blood. In this respect a comparison may be drawn between the pulsation occurring with a hole in the calvaria and the impulse on coughing communicated to all tumours, fluid or gaseous, which have a free communication with the abdominal cavity, the impulse from within being felt externally where the wall is deficient. The diagnosis of cerebro-spinal fluid tumour must rest on other grounds than pulsation and increase in size when the child cries. I pointed out that there was a peculiar thinness (for lack of a better word) in the feeling of fluctuation, and a tendency to displacement, which allows the gap in the bone to be distinctly felt. Moreover, the tumour may be translucent, and there is an absence of fever such as is present when the tumour contains pus. As regards treatment, I insisted in my first paper, in 1876, upon the wisdom of leaving these cases as much as possible to nature. Aspiration cannot assist the cure, and appears to add seriously to the danger. It is, therefore, only justifiable as a means of diagnosis, and then is best performed with the needle of a hypodermic syringe.

Now that attention is being drawn to this class of head injuries, it is to be hoped that observers will carefully distinguish between the serum of blood-clot and the watery, barely albuminous, cerebro-spinal fluid.—Yours truly,

R. CLEMENT LUCAS, B.S., F.R.C.S.

Finsbury-square, Jan. 10th, 1885.

DARENTH SMALL-POX CAMPS.

To the Editor of THE LANCET.

SIR,—In consequence of the discussion now going on in the public journals, both general and professional, regarding the Darenth Small-pox Camps, and the conflicting statements therein contained, I determined to visit them myself, alike in the interests of the metropolitan ratepayers as in the cause of truth and humanity, in order to ascertain by a complete and careful investigation the present real state of things there. I may premise that my visit was totally unexpected, and that not a single member of the Metropolitan Asylums Board was personally known to me. Having during a continuous period of twenty years in the Indian Medical Service had considerable practical experience of camp management, both military and civil, as field hospitals, and camps for epidemics of cholera and gaol fevers in particular, and having been during the last four years of my sojourn there superintendent of the Rāwalpindi gaol—one of the largest, and having an average of over 1000 prisoners daily,—I thought I might venture to form an approximately accurate opinion upon the subject.

I arrived at the camps—there are two, one for males and juveniles over ten years of age, the other for females and children, and some three hundred yards apart—at noon, and spent about four hours there, designedly timing my visit so as to be present during the midday meal. I examined and tasted the meat (roast beef), potatoes, pudding (baked currant), the broth and beef-tea, the bread-and-butter, and also the beer, and I found them all, both in quantity and quality, good and well cooked; each patient had also some greens, and those who did not wish for beer were allowed milk-and-water, lemonade, or ginger-beer. The quantity of meat I considered superabundant; there was no fixed quantity, each being allowed to take as much of everything as desired; and I saw with much regret large quantities of beef and mutton, the remains of joints, cast into a tub to be eventually cremated, being informed by the superintendent, Dr. Waylen, and the steward, Mr. Harper, who with a solicitor, specially, and equally unexpectedly, deputed by the Asylums Board to examine into the complaints which have lately appeared in print, accompanied me throughout my searching inspection, that there was no other way of disposing of it.

I afterwards visited the sleeping tents, examined the bedding, the pillows, mattresses, &c., which are filled with horsehair, as well as the personal clothing of many of the inmates, and found them all clean, suitable, abundant, and of superior quality; indeed, in this latter respect, in my opinion, extravagantly so. I also visited the kitchens, the general stores, laundry, bath-room, the disinfecting and engine rooms, as well as examined the sanitary, and especially the conservancy arrangements—the dry-earth system is universal,—the drainage, and the water-supply, and found them all satisfactory. The infirmaries—three, one each for the males, females, and children—I particularly inspected; they are substantial wooden structures, and in cleanliness, order, lighting, and temperature, all that can be expected. I may here state that all the tents and wooden sheds are warmed by means of steam-pipes, and that a suitable temperature, superintended by special attendants night and day, is regularly maintained. During my visit a batch of twenty women and children had just arrived from the ships near Dartford; they were conveyed in a three-horse omnibus, and, although they had travelled during a severe snowstorm, they arrived in a comfortable condition, and their clothing was in every way suitable. All the patients throughout the camps appeared happy and comfortable. I spoke to many of them, of all ages and of both sexes, and they all expressed themselves satisfied; indeed, although in all the places visited the question was loudly asked, there were no complaints; but on our leaving the mess-room of the male patients we were dismissed with loud, lusty, and repeated cheers, which were audible at some distance outside after we left.

In short, the condition of all the patients seemed in all respects highly creditable to the local authorities; and I noticed particularly the respectable appearance and gentle demeanour of the subordinate establishment, especially of the female nurses. The patients are provided with books, games, and gymnastic apparatus, and there are entertainments—such as singing, recitations, &c.—every evening in the assembly-rooms. Toys and suitable picture-books are also provided for the children; and the scale of diet throughout seems to be a liberal one. The total number of patients was 658. The number of sleeping tents was thirty-five; all of them very large and lofty, having double flys, and standing upon raised brick pillars, about three feet high. They are provided with wooden flooring, and the superintendent has adopted, of his own design, and for all of them, glazed doors, giving them the cheerful appearance and lightness of an ordinary dwelling. The estate on which the camps are pitched consists of about 300 acres; the site is ample, sloping, well sheltered by the adjoining Darenth wood, and overlooks some of the most beautiful scenery in the country. It is about 400 yards from the main road, and from the three or four residences about it; the inhabitants of which are thus completely insured against the possibility of being contagiously affected. The establishment appears ample and efficient. The superintendent seems entirely devoted to his somewhat disagreeable duties, and he is assisted by two fully qualified assistants.

There appears to me to be no grounds whatever for any anxiety regarding the welfare of these poor and unfortunate patients, whose condition has naturally excited the sympathetic solicitude of the general public, and the managers of the asylums board deserve the highest praise and the best thanks of the community for their efforts in so rapidly organising this large and novel institution.

I am, Sir, yours truly,

JOHN INCE, M.D.,
H.M.'s Indian Medical Service, Retired List.

Jan. 12th, 1885.

TUBERCLE BACILLI AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—As I was prevented by the rules of debate from speaking again in the discussion on tubercle bacilli at the Medical and Chirurgical Society on Tuesday evening last, perhaps you will kindly allow me a few lines of your space to say that I heard nothing from Mr. Watson Cheyne which directly met my statements and inquiries made at the previous meeting. We are still left in doubt as much as ever whether Dr. Koch strictly adheres to the fractional principle in his cultivations. In one passage of his report to the Association for the Advancement of Medicine by Research, Mr. Cheyne would have us believe that the fractional principle was adhered to by Dr. Koch throughout a long succession of cultivations, although Dr. Koch himself withholds the detailed information on that point, not only in his first paper, but equally in his final reports of eighteen months' later date. In another passage Mr. Cheyne implies that the whole of the first cultivation was transferred to the second test-tube, "and so on." In his remarks on Tuesday evening, he seemed to treat the quantity of scales or crusts carried forward as a matter of indifference, and even of uncertainty. But everyone knows that the very principle of the pure cultivation of fungi which was introduced by Brefeld (and which I saw applied to disease-producing fungi by Dr. Grawitz at Berlin eight years ago) is to make each successive crop of organisms grow from the smallest possible fraction of the former crop.

It is needless for me to meet Mr. Cheyne's round assertion that I am from first to last in error. My printed statements as to matters of fact are all authenticated by references, and they are not to be overthrown by a display of virtuous indignation. As to my interposition in this business, I do no more than exercise the right and duty of every member of the profession to hold and express an intelligent opinion on a disease which confronts us every day.

I am, Sir, your obedient servant,

C. CREIGHTON, M.D.

New Cavendish-street, W., Jan. 14th, 1885.

COCAINE AS A LOCAL ANÆSTHETIC.

To the Editor of THE LANCET.

SIR,—Evidence of the value of cocaine is so rapidly accumulating that additional testimony seems scarcely required. I should, however, be glad to add a few lines to my letter which you published on Nov. 22nd. I have continued to use it in varying quantities for many purposes, and seldom without satisfactory results. Ophthalmic

surgeons have found a weak solution sufficient, and it is desirable to economise its use. In laryngeal cases weak solutions often suffice, but, as I have said, stronger ones may be required. I have had to employ 10, and sometimes 20, per cent.; but have often avoided this by using repeated applications of 2, 4, or 5. Much depends on the depth to which it is necessary to induce, and the time it is required to maintain, anæsthesia. I have succeeded six times in growths of the larynx without exceeding 5 per cent. When the attachment is firm and deep this will not be enough. In the nose 5, 10, 15, or 20 per cent. may be required, according to the extent and depth of anæsthesia necessary. Superficial anæsthesia may be produced in this and other mucous membranes by 2 to 5 per cent. Tactile anæsthesia may be tolerably complete when sensibility to thermal and other impressions is incomplete. In three cases of excessive hyperæsthesia I have completely removed the condition with 2 and 4 per cent. In seven or eight cases of excessive pain in late laryngeal phthisis it has been quite arrested by cocaine. In extreme dysphagia in the same disease some patients have been enabled to take food after sparing but careful use of the anæsthetic. In several of these cases a weak solution of 1 or 2 per cent. has answered. The remedy may be used as a spray instead of painting. Thus a weak spray for a very short time renders the throat or nose anæsthetic.

There is another effect which none of your correspondents notice. The cocaine produces pallor, sometimes quite extreme, of the membrane to which it is applied. This it will do in health, and in the same way it often causes the immediate disappearance of hyperæmia, an effect the importance of which is obvious. Considering that there may be an arrest of our supply, it would be well if those who are using the alkaloid internally would content themselves for a time with a fluid extract of the cuca leaves, which can be easily obtained. For fear of encroaching too much on your space, I will only add to-day that I had anticipated Dr. A. H. Bennett's suggestion, and have made a number of experiments with other alkaloids, the results of which I shall be happy to furnish if you can find room for them in THE LANCET.

I am, Sir, yours truly,

Dean-street, Park-lane, Dec. 6th, 1884. PROSSER JAMES.

To the Editor of THE LANCET.

SIR,—A lady suffering from two small recto-vaginal fistulæ, who had been three times operated upon by a distinguished London surgeon with only a partial amount of success, came under my care a few days ago. The fistulæ now being small I determined to "raw" the edges by means of the actual cautery, using that of Paquelin for the purpose. Before applying it I painted the vaginal surfaces thoroughly well with a 4 per cent. solution of the hydrochlorate of cocaine. Partial insensibility ensued in about seven minutes, and the patient bore the operation very well, remarking that she "felt the burning, although she did not feel the pain." I was pleased and yet disappointed; pleased that she "did not feel the pain," but disappointed after the glowing accounts I had read with regard to cocaine that she should "feel the burning." Were I using it again I would employ a stronger solution, say 10 per cent., as subcutaneous injection in my case, owing to the thinness of the tissues, would hardly have been practicable.

I am, Sir, yours faithfully,

J. RUDD LEESON, M.D. Edin.,
Late Demonstrator of Anatomy, St. Thomas's Hospital.

Twickenham, Jan. 10th, 1885.

"AGORAPHOBIA."

To the Editor of THE LANCET.

SIR,—Having seen in your last impression a request from a surgeon to give an account of a case of agoraphobia treated satisfactorily, I venture to write to your valuable journal and offer suggestions founded upon a case for some years under my care, which has ended in complete recovery, whether *post hoc* or *propter hoc* it is not for me to say.

The patient was a robust man, in the prime of life, between thirty and forty, fond of exercise, above the average intellectual development, but much subject to the *symptom* (I have always maintained it is not a *disease*) to which has been given the pedantic title of "agoraphobia." I have no hesitation in affirming that this symptom is usually due to sexual and alcoholic excess. We all know that some men can indulge to a much greater extent in the two excesses above-named without any serious consequences than can others. And it is the imitation of these Sileni and Priapi by their weaker brethren which constitutes the chief cause of agoraphobia.

In my experience the exhibition of drugs is of little avail in such cases. The fault is not on the side of morbid excess, but of morbid imitation; and if you can once get the patient to recognise this fact, the cure is, as a rule, in his own hands. Tonics stimulate the already excessive desire; whereas sedatives, such as bromide of potassium, debilitate the patient to such a degree as to prevent his carrying out his daily avocations. The agoraphobic patient should keep a strict account of his expenditure to the heathen gods (Bacchus or Venus), and should use his best endeavours to lessen it. He should also endeavour to keep an account of the number of hours he walks in the day, and should increase them as his strength improves. He should also note the time he goes to bed and the time he rises in the morning, especially remarking if he should be awake in the night, and for how long.

This is not the place to enter into a discussion on insomnia, although this, too, is undoubtedly a minor cause of agoraphobia. As a rule, the simplest remedies for this disease are the best. My favourite prescription is an hour's brisk walk in the open air before going to bed, followed up by a hot glass of wine and water, not forgetting the nutmeg.

I may, I hope, be excused if I add a few empirical hints gleaned from my patients in these cases. The patient must be spirited and courageous; he must force himself into the street to take walking exercise. The pace should be slow for the first quarter of an hour, and then worked up by slowly increasing degrees to the usual speed. Should the symptom be very aggravated, the patient should only (in London) walk in the open streets, where he can obtain a cab should he require one. Should he be obliged to traverse any short distance, across an open space, and should he then feel that horrible sensation (described by Legrand du Saulle) of the heart being squeezed as in a vice, a few sharp blows with his fist on the epigastrium will restore the action of the organ to regularity, and often bridge over the abyss till he can reach a place of security. Agoraphobia depends much on association; therefore let the patient avoid all places in which experience has shown him that the sensation is apt to arise.

Claustrophobia generally accompanies agoraphobia. This is not the fear of *open* spaces, but the fear of *shut* spaces. Most of the cases under my care have experienced this sensation when at stool. This I attribute to two causes: one physical, which is the debilitating effect of passing the fæces; the other moral, from the fear that if the patient should faint he might fall against some object and injure himself. A patient liable to faint at stool (and this is very common) should leave the door of the closet unbolted, and have a servant outside ready to respond to his call should he feel unwell. Far be it from me to encourage the practice of secret drinking; but I have known one agoraphobic patient much improved by carrying a flask of wine in his pocket, which he could take on an emergency, and in extreme cases even brandy is allowable. A walk with a companion is a most valuable remedy in this disagreeable state of things; as thereby the heart's action is rendered more regular and more powerful, and the fact that there is some one at hand to assist should occasion arise gives the patient a confidence he can never feel when alone.

The treatment of agoraphobia may be thus summed up. 1. Diminish sexual intercourse. 2. Diminish alcoholic stimulants. 3. Increase exercise. 4. Take enough, but not too much, sleep.

Your obedient servant,

HENRY SUTHERLAND.

Richmond-terrace, Whitehall, S.W., Jan. 1885.

TREATMENT OF INTESTINAL OBSTRUCTION.

To the Editor of THE LANCET.

SIR,—If you will allow me a final word in reply to Mr. Steele's letter in your last number, I would merely observe that I consider it amply confirmatory of my original statement, that rest, opium, and starvation had for many years been the recognised treatment in cases of intestinal obstruction. He observes that I "still look upon Mr. Thomas as merely one of many authors who have laid down the so-

called rest, opium, and starvation treatment." That is precisely my view of the matter, while at the same time giving Mr. Thomas every credit for pointing out certain improvements in diet, and for protesting against mechanical remedies when ignorantly and excessively employed. Mr. Thomas says that "between Sydenham and himself a void exists." This is not unlikely, but it fails to convince me that they are the only two persons who have ever known anything about intestinal obstruction. Mr. Steele describes himself as a young practitioner. With increase of years and experience I feel sure that he will discover that to rigidly apply one uniform and restricted method of treatment (to the exclusion of all others) to a disease under which are classed pathological conditions as widely asunder as the poles is neither logical nor in accordance with the principles which govern medical science in other instances.

I am, Sir, your obedient servant,

Liverpool, Jan. 13th, 1885. W. MITCHELL BANKS.

TREATMENT OF FUNCTIONAL AMENORRHŒA.

To the Editor of THE LANCET.

SIR,—Will you allow me to draw the attention of the profession to a remedy for functional amenorrhœa which has been very successful in my hands. It consists in the persevering use of an infusion of the bog- or buck-bean *(Menyanthes trifoliata)*, taken hot every morning half an hour before breakfast, for some weeks if necessary. The rough mode of making this infusion is by half filling a tumbler with the dried plant, and pouring upon it five or six ounces of boiling water over night. This makes one dose, or in some cases two. In order to avoid the inconvenience of this process, Mr. Martindale has kindly made a liquid extract of the drug, the dose of which would be a tablespoonful in half a tumbler of hot water, I am induced to send you this letter in the hope that others will try this remedy and report upon it.

I am Sir, yours faithfully,

Harley-street, W., Jan. 14th, 1885. JULIUS POLLOCK.

THE M.D. EXAMINATION AT THE LONDON UNIVERSITY.

To the Editor of THE LANCET.

SIR,—The published results of the recent M.D. examination of the University of London have occasioned much comment in professional circles, and at the present juncture such comment may not be without influence on the side of those who are agitating for a teaching university in London, unless, as we are informed is likely to be the case, a special committee of the Senate be appointed to inquire into the circumstances.

The examiners in logic and psychology alone rejected 51·7 per cent. of the candidates, including those who presented themselves in both medicine and logic together, and those who entered for the latter subject only. Seventeen candidates entered for the whole examination: of this number eleven passed; six, although passing "a highly creditable examination in medicine," were rejected in logic; and three were rejected in medicine. Now, the most apparent absurdity of this result is the fact that examiners in logic and psychology should be the means of compelling these six legally qualified medical men, who pass "a highly creditable examination in medicine at the M.D.," to be re-examined, not only in their own subject, *but also in medicine*. This fact must have been painfully apparent to the medical examiners when assembled in conclave to decide the results.

Dr. Inflammation: "Candidate A.B. displays a highly creditable knowledge of medicine." Professor Abstract: "Indeed! He has failed to reach the necessary standard in logic and psychology, and it will be necessary for him to be re-examined *in medicine again also*." Why should this be? The examiners in medicine have no power to compel a candidate to appear again in logic, &c., if he passes in logic and failed in medicine.

Might I be allowed to appeal to your readers to explain away by some obscure (or simple if possible) "logical" method the absurdity of these facts.

I remain, yours faithfully,

December, 1884. MEDICUS.

LIVERPOOL.

(From our own Correspondent.)

DEATHS IN LIVERPOOL FROM ZYMOTIC DISEASES IN 1884.

AT the last meeting of the Health Committee some interesting statistics, compiled by Dr. J. Stopford Taylor, the medical officer of health, respecting the death-rate during the past year, were read. The deaths from zymotic causes amounted to 2973, of which the following details are given:—

Disease.	Deaths during 1884.	Average for previous ten years.
Small-pox	106	82
Measles	611	441
Scarlatina	197	620
Whooping-cough ...	546	466
Diarrhœa	841	704
Diphtheria	80	53
Fever	205	402

The deaths from fever and diarrhœa were much lower than had ever been known before, a circumstance which may be fairly attributed to the many sanitary improvements which have been lately effected in the city.

HOSPITAL SUNDAY.

Sunday, the 11th inst., being the second Sunday in the year, was observed as Hospital Sunday in Liverpool, collections being made in all the churches, chapels, and other places of worship in the city and suburbs. Unfortunately the weather was most unfavourable, being wet and very boisterous during the whole of the morning; hence a falling off in the amount of the collections has been observed; a circumstance which is much to be regretted, as all the local hospitals and dispensaries are greatly in need of increased support. The total amount advised to the treasurer up till the 14th inst. amounted to £3299.

CONCERTS AT THE ROYAL INFIRMARY.

At the Royal Infirmary a concert was given on the 3rd inst. in one of the wards, which was beautifully decorated for the occasion. The performers were members of the resident medical and nursing staff, aided by friends; among the audience were members of the committee and of the honorary medical staff, with their wives, families, nurses and patients. An excellent programme was gone through, the various songs being extremely well rendered. The audience showed their appreciation by frequent applause, in several cases an encore being demanded, and a most enjoyable evening was spent by the visitors.

DANGERS OF STONE-THROWING.

An inquest was held last week on the body of a boy aged eleven by the borough coroner. It appeared from the evidence that on New Year's Day the deceased was running away from a lad who had used threatening language to him, when he was struck on the back of the head by a stone, which his assailant was seen by a witness to throw at him. The deceased expired on Saturday night from concussion of the brain, and a verdict of manslaughter was returned against the boy who threw the stone, who was only fourteen years of age, and admitted his guilt after being duly cautioned. This dangerous practice prevails to a very considerable extent in Liverpool.

MANCHESTER.

(From our own Correspondent.)

CHEAP DINNERS FOR SCHOOL CHILDREN.

ONE, and by no means the least, of the results following the agitation on over-pressure in our elementary schools has been the prominence given to the fact that many of the children attending these are sent in a half-starved condition, often, indeed, commencing their day's work on an almost empty stomach, and as a remedy for which cheap dinners for those who cannot obtain the necessary food at home have been established. This experiment, commenced in London, has been also put upon trial here, chiefly through the instrumentality of Mr. Alexander Forrest, whose works

are situate in one of the poorest and most densely populated districts of the city, Holt Town, and who has become very intimately acquainted with the poverty so prevalent around. He with the assistance of some friends has made arrangements whereby during the past two months nearly 200 dinners have been supplied daily. A charge of one penny has been made where possible, but in 15 per cent. of the dinners it has been found, after careful inquiry, that even this small sum was not able to be paid, and free tickets have therefore been given to these. The cost of the dinners has, exclusive of labour, been a trifle over a penny per head, so that some help is required from charitable friends if they are to be continued through the winter. In the discharge of this truly charitable work, the difficulty which meets the philanthropist is the danger of pauperising the parent whilst endeavouring to prevent the starvation of the child.

CHRISTMAS AT THE HOSPITALS.

Christmas and the New Year were celebrated in some of our hospitals. At the Ancoats and Ardwick Hospital a Christmas-tree and some theatricals were arranged for the patients, and were attended by a goodly number of friends of the institution. This hospital has of late been doing much good work. For some years its wards were almost empty; but, thanks to the exertions of a few energetic friends, amongst the foremost being the honorary secretary, Mr. A. Forrest, above-mentioned, two of the largest wards are now fully equipped and filled with patients. At the Eye Hospital, the Children's Hospital (Pendlebury), the Monsall Fever Hospital, and the Infirmary at Hope, some seasonable festivities were provided for the inmates.

HOSPITAL EXTENSION.

At the last meeting of the board of management of the Royal Infirmary a scheme was brought forward and approved for considerable alteration and extension of the Monsall Fever Hospital belonging to that charity. For some years past arrangements have been in force between the infirmary and the corporation of Manchester for the reception at the Monsall Hospital of cases of infectious disease requiring isolation in hospital, the corporation not possessing, like the adjacent borough of Salford, a hospital of their own. The estimated cost of the proposed extension exceeds £20,000, and this the infirmary ask the corporation to find if they desire to continue to use the Monsall Hospital, pointing out that it is no part of the duty of that charity to provide accommodation for the infectious diseases of the city and neighbourhood, and that they cannot be expected to expend this large sum out of the funds of a charitable institution to relieve the health committee of what is essentially part of their duty as the legal sanitary authority of this large population. Unfortunately, at the present time there is a dispute pending between the corporation and the infirmary as to the length of time cases are retained in hospital, the former asserting that they are kept longer than is necessary, thus greatly increasing the cost of isolation, and when the last accounts were sent in by the infirmary board they deducted more than £500 from the bill on these grounds. This the infirmary have firmly resisted, and have notified the health committee that unless the charges are paid in full their patients will no longer be received; and for the present there the matter remains.

At the annual meeting of the Ear Institution it was reported that, owing to the increase of patients, it had become necessary to remove to more commodious premises, and an appeal was made for more subscriptions to meet the increased expenditure connected therewith. It had been found necessary to appoint, for the first time, a house-surgeon. The Lock Hospital, also, is contemplating extending its work by the addition of a special department for diseases of the skin. The committee of this hospital urgently appeal for more help from the public if the work is to be carried on, even to the extent hitherto done.

WATER-SUPPLY.

At the last meeting of the city council an important step was taken in reference to the water-supply of Manchester. The late dry autumn placed us uncomfortably near to a water famine, and it was resolved, on the recommendation of the waterworks committee, that the scheme for bringing water from the Lake district in Cumberland, which has been in abeyance, should at once be actively proceeded with.

EDUCATION AND HEALTH.

On the 9th inst. a largely attended meeting was held in the town hall, for the further consideration of the proposed conference to be held here on education and health. Mr. Oakley (H.M. Inspector of Schools), chairman of the executive committee, stated that Lord Aberdare had consented to become president, and much support was promised to and interest manifested in the proposed meeting, and it was resolved that the necessary steps be at once taken to complete the arrangements for holding the same. From the names of those who have given their approval and promise of help, and from the subjects proposed to be brought forward for consideration and discussion, it bids fair to be a conference of a very useful and interesting character.

The graduates of Aberdeen were somewhat disappointed at their annual dinner recently held at the Grand Hotel by the inability of Sir Andrew Clark to preside thereat, as had been arranged. In his absence the chair was occupied by Dr. Ross, a very enjoyable and convivial evening being spent.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

NEWCASTLE INFIRMARY.

A SPECIAL court of governors is called at the infirmary for the 23rd proximo, to consider the resolution passed on the 23rd of December last, and which runs as follows:—"That this committee recommends the design of Messrs. Lamb and Armstrong as the best means of adding to the infirmary on its present site; but the medical board, having submitted to this committee the opinion of the staff that the hospital, instead of being added to, shall be removed to another locality, resolved that the whole matter be again referred to the body of the governors, and that for this purpose a general meeting be called this day month." So that we are to have the whole question of enlargement or removal to a new site considered on its merits, full weight, I trust, being given to the recommendation of the medical staff. At a recent meeting of the Newcastle Trades' Council the subject of having a working man as a representative on the infirmary committee was discussed, and upon the whole in a very fair and reasonable spirit. It was stated that there were many questions that came before the infirmary committee with regard to letters of admission, patients' conduct, and nurses' behaviour, that could be adjudicated upon by a working man better than by those who were not in constant communication with those who mostly used the infirmary, and that the experience of the relief committee showed that the working man representatives had been the means of solving many cases of sham distress. Further, it was stated that it was well known that the infirmary was greatly imposed upon by persons who were able to pay for medical aid. One speaker said he knew of families in good circumstances who, whenever the slightest thing ailed them, said, "Go to the infirmary." These people were not in a friendly society, but altogether relied upon the infirmary for their medical requirements. It was pointed out at the meeting that anyone could become a life governor by paying a sum of money, but not a small one for a working man. It was thought that a bye-law might be passed by the infirmary authorities whereby, considering the very important sum of money now contributed by the working classes to the Hospital Sunday Fund, a means might be found for a representative working man being on the house committee.

CURIOUS DISCOVERY OF SKELETONS AT TYNEMOUTH.

The men employed in the excavation for the new park at Tynemouth have come across a quantity of human remains. The whole of the skeletons, numbering, as far as they can be put together, twelve or fourteen, were stated to be above the average height of the present generation; one in particular was stated as measuring 8 ft. 3 in., the skull being also, according to account, of extraordinary thickness; but a later and more careful measurement of the bones went to show, as might have been expected, that the height would be about the average of men of the present day, 6 ft. or so being about the maximum. Not one of the separate pits in which they have been found is more than 4 ft. in depth, the majority of them being from 18 to 20 inches from the surface. They are supposed to have been interred during the Cromwellian era, but this point is not yet decided.

FROST-BITTEN SEAMEN.

The steamer *Rydal Water*, of Liverpool, arrived in the Tyne last week with two seamen very severely frost-bitten while on the passage from New York, which port they left on Dec. 18th last. They say that on the day the vessel left she was covered with ice, and that the spray from the sea no sooner fell upon the crew than it was frozen. The sea swept over the vessel with great force, one wave broke the bridge, and the ship was hove to for three days during the passage, which lasted twenty days. Both men are severely injured in their feet and hands, and have been admitted into the borough hospital, North Shields.

POISONING BY FLUORIC ACID.

An inquest was held last week on the body of a young servant girl who had been living at Tudhoe Grange, near Durham. It seems that on Sunday evening she drank a quantity of fluoric acid, which was used by her master for staining glass. Soon after she took the poison she told the children to tell their mother. Dr. O'Hanlon was soon in attendance, using the stomach-pump and all other means, but his efforts were unavailing, and she died in great agony in three hours and a half after taking the acid. The jury, in giving their verdict, expressed the opinion that such a deadly poison should have been kept under lock and key. It appears to have been left in a cupboard.

THE CARRIAGE TAX.

An important meeting was held here last week on the subject of the carriage tax, the speakers showing its pressure on the medical profession, the trade, and the general community.

Newcastle-on-Tyne, January 14th.

SCOTLAND.

(From our own Correspondent.)

SCOTCH UNIVERSITY STATISTICS.

THESE statistics have some interest in view of the agitation at present going on in London for the establishment of a teaching university there. The matriculation returns for Edinburgh show these results:—The aggregate number of students matriculated during the year being 3401, as against 3396 on the register of the previous year. These were divided between the different faculties as follows:—Faculty of Arts, 1064; Divinity, 113; Law, 500; and Medicine, 1724; the percentage composition being: in Faculty of Arts, 31·2 per cent.; Divinity, 3·2; Law, 14·7; and Medicine, 50·67 per cent. The entries in the register show that of the 1724 students in the latter faculty, 689, or 39·4 per cent. were from Scotland; 605, *or 35·1 per cent., from England;* 44, or 2·6 per cent., from Ireland; 104, or 6·3 per cent., from India; 247, or 14·3 per cent., from the different British colonies; and 34, or 1·9 per cent., from foreign countries. The following is an analysis of the respective ages of students attending the university:—Under sixteen there are 14 students, or equal to 0·41 per cent.; between sixteen and twenty-one, 1573, or 45·7 per cent.; between twenty-one and twenty-six, 1401, or 41·2 per cent.; between twenty-six and thirty-one, 317, or 9·3 per cent.; between thirty-one and thirty-six, 64, or 1·9 per cent.; and between thirty-six and forty and above forty, 16 in each, or equal to 0·47 per cent. The register of members of the General Council for the past year has just been completed, and shows an increase of 237, the number enrolled being 5158, as against 4921 on the last register. In Glasgow there is a slight, but very slight, falling off in the number of matriculated students, the number being 2091, as against 2115 last year. In the faculty of Medicine, however, there is a slight increase, the figures being 557, as against 536 last year.

HEALTH OF GLASGOW IN 1884.

Dr. Russell reports that during 1884 there were 13,929 deaths registered, a rate of 27 per 1000, being 1 per 1000 below the rate of 1883, 1 above the average of the five years immediately preceding, exactly the same as the average of the ten years 1874-83, and 4 per 1000 below the average of the ten years 1864-73. Dr. Russell remarks that, high as the death-rate of 27 is, if we examine the records of the Registrar-General for 1855, when his office was instituted, we shall find that from that date to 1879 the death-rate of Glasgow never fell so low in any one year; and that only in four years of the 29 during which we have had a Registration Act in operation, has it been lower than 27. In appreciating our present position it is always necessary to remember what our death-rates have invariably been until within the last few years. In these comparisons I have adhered wholly to the Registrar-General's rates, which have, since the census, been based on a population below the reality. According to my estimate of the population, the death-rate last year was 25½. During the past fortnight the death-rate in Glasgow has been very high, 36·8 per 1000. The proportion of deaths under five years to the total mortality rose to the extreme figure of 52½ per cent., this enormous child mortality being due to the coincident increase of measles, whooping-cough, and scarlet fever.

It is announced that Professor G. H. B. Macleod of Glasgow has been chosen a Foreign Corresponding Member of the Académie de Médecine of Paris. He has also been asked to accept the office of President of the Section of Surgery at the approaching meeting of the British Medical Association at Cardiff, but has not been able to accede to this request.

IRELAND.

(From our own Correspondent.)

ROYAL COLLEGE OF SURGEONS IN IRELAND.

SEVERAL important alterations in the Supplemental Charter were agreed to by the Fellows at a special meeting held last week; among the rest being the admission of women to the Fellowship as well as Licence of the College. The proposer of this latter resolution, I am informed, did not intend to include the word "Fellow" in the clause admitting them to the Licence in Surgery; but on a division being taken an amendment removing the word "Fellow" was lost by about four votes. There was a good deal of confusion at the time the division was taken, and I am convinced that several Fellows who did not wish to allow women to the higher qualification, but had no objection to their being admitted Licentiates, voted on the wrong side by mistake. The meeting was not so large as might have been expected; probably only about fifty Fellows were present at the proceedings, and not quite forty votes were recorded on any division. The result of this resolution will be that when it becomes law women will not alone be eligible for the Fellowship, but, when Fellows, can be candidates for places on the Council, for examinerships, and for various chairs established by the College, and, lastly, can fill the office of president when elected to that honourable position.

ACADEMY OF MEDICINE IN IRELAND.

A special general meeting of the Academy will be held on Saturday, the 17th inst., to consider the following resolutions passed by the General Council:—1. "That it is expedient that a fixed salary shall be paid yearly to the general secretary of the Academy, in consideration of the fact that the editing of the Transactions is part of his duties." 2. "That the salary of the general secretary shall be fixed at £100 a year." 3. "That the following be nominated Honorary Fellows of the Academy:—Sir James Paget, Theodor Billroth, Professor Virchow, Professor Pasteur, Professor Charcot, Dr. Austin Flint, Dr. Keith, Professor Schroeder, Professor Kölliker, Sir Joseph Lister." 4. "That it be recommended to the Academy that application be made to the Government for accommodation in the new science and art buildings."

SCHOOL OF PHYSIC, TRINITY COLLEGE, DUBLIN.

At a meeting of the medical students of this institution, held on the 9th inst., it was unanimously resolved to form a volunteer corps on the lines advocated by Surgeon-Major Evatt. It is expected that the latter gentleman will shortly visit Dublin and give a lecture on the subject.

DUBLIN ORTHOPÆDIC HOSPITAL.

The committee of this institution have made arrangements for holding a grand fancy dress ball for the benefit of the hospital, there having been a large outlay consequent on moving to the present premises in Brunswick-street. The ball has been fixed for the second week in February, and will be held under distinguished patronage.

CORK-STREET FEVER HOSPITAL.

Dr. Sydenham Chandlee has been elected resident medical officer and registrar to this institution, in the vacancy caused by the death of Dr. Maturin, to whose lamented decease reference was recently made. The cases of measles in hospital are much beyond the average, and the disease appears to be assuming an epidemic form.

The National Orthopædic Hospital and the Pitt-street Institution have been amalgamated, as the objects of the two institutions are identical and have members of the medical staff attached to both hospitals.

Dr. Stewart, dispensary medical officer of Donaghadee, has been placed on the Commission of the Peace for co. Down.

Dublin, Jan. 13th.

PARIS.

(From our Paris Correspondent.)

THE ACADEMY OF MEDICINE.

DR. BERGERON, of whom I have spoken in my letter of Dec. 13th as having been elected Vice-President of the Academy of Medicine only two months ago, in the room of the late Dr. Fauvel, has passed in the usual course to the President's chair, which he will occupy for the present year; and Professor Trélat has been elected Vice-President in his stead. M. Schultzember has been elected Member of the Academy of Medicine in the Section of Physics and Chemistry, in the room of the late Professor Wurtz.

PLASTIC OPERATIONS ON THE PALATE.

Just before his election to the Vice-Presidentship of the Academy of Medicine, Professor Trélat read a very interesting paper before that learned body on the relative merits of plastic operations on the palate and the use of prothetic apparatus as a substitution for the former. In giving the history of these operations, M. Trélat stated that Roux created staphylorraphy during the latter end of his practice, but he then only operated on small fistulæ, the operation consisting in bringing together the two edges of the gap in the soft and hard palate, in addition to which the patient was obliged to wear a prothetic apparatus. This operation, however, was never practised by him before the patient reached the age of sixteen. A few years later Sédillot performed staphylorraphy in a young girl of ten. Seeing this, several surgeons expressed the opinion that the operation might be performed at a much earlier age. Otto Weber, of Bonn, and Billroth, had recourse to the operation in patients only a few months old. Simon of Rostock operated on an infant of fifteen days old, and Rouge of Lausanne operated on an infant of only a week old. The operations in these conditions were not generally attended with success, which induced Maisonneuve, Larrey, and Nélaton to declare that the results obtained from plastic operations on the palate were far inferior to those obtained from prothetic apparatus. Notwithstanding this declaration by such eminent men, M. Trélat believes in the superiority of plastic operations, though he admits that in certain circumstances prothetic apparatus may be found useful as a *dernier ressort* when the operation has failed, or when the condition of the parts does not permit of one. Moreover, it must be remembered that these apparatus are not always well borne, besides being a source of much trouble and expense to the patient. M. Trélat performed forty-six plastic operations on the soft and hard palate, and from his experience he concludes that these operations should not be performed before the age of seven, nor should they be undertaken when the opening in the palate is too large, or when there would not be sufficient substance in the soft parts. In concluding his paper, M. Trélat insisted on the necessity of submitting children affected by this infirmity to a sort of phonetic education, before as well as after the operation, particularly those who have a wide opening in the palate.

FARADISATION AS A TEST FOR DEATH.

During the recent epidemic of cholera, and owing to the great resemblance of cholera patients to those apparently or really dead, certain physicians advised the adoption of faradisation to distinguish the one form from the other before resorting to interment. Dr. Bochefontaine undertook a certain number of experiments with the view of ascertaining the value of this test. The results he obtained were absolutely negative, in so far that faradisation did not permit one to distinguish real from apparent death.

ANTAGONISM OF THE SYMPATHETIC AND PNEUMOGASTRIC NERVES.

At a recent meeting of the Société de Biologie, M. d'Arsonval read a note from the unpublished papers of the late Claude Bernard on the Antagonism of the Sympathetic and Pneumogastric Nerves, which contains the following conclusions:—1. The pneumogastric nerve is the antagonist of the sympathetic in the abdomen. 2. The pneumogastric plays the same part with regard to the abdominal viscera that the cord of the tympanum does with regard to the salivary glands. In this work M. Claude Bernard equally establiished the fact that it is at the level of the duodenum that the temperature of the blood is at its greatest height, on the condition, however, that the temperature is taken when the animals are fasting.

UREA IN THE BLOOD.

In a paper on the proportion of urea in the blood, MM. Gréhant and Quinquaud arrived at the following conclusions: 1. The venous blood, returning from the head or limbs, contains no more urea than the arterial blood conveyed to these parts; consequently, any urea from these must be carried away by the lymphatics. 2. Blood which has passed through the spleen or liver contains more urea than arterial blood: the difference is greatest during digestion, and the quantity of urea may reach nine milligrammes in 100 cubic centimetres of blood.

Paris, Jan. 13th.

Obituary.

DR. HERBERT DAVIES, F.R.C.P.

IT is with deep regret that we record the death of Dr. Herbert Davies of Finsbury-square, in the sixty-seventh year of his age. He had for some time been the subject of dilatation of the heart, but it was only during the last year that the well-known consequent obstructions to the circulation had developed so as to occasion serious alarm both in his own mind and to his friends, and which ultimately terminated in most distressing paroxysms of cardiac apnœa.

Dr. Herbert Davies was born on September 30th, 1818, and was the son of Dr. Thomas Davies, a former physician to the London Hospital, who on resigning general practice in the East-end of London went to Paris and studied auscultation and diseases of the chest under Laennec. On returning to London he devoted himself to the study of diseases of the heart and lungs, was one of the first, if not the first, to introduce the use of the stethoscope in this country, and established the special hospital for diseases of the heart and lungs which is now represented by its successor in the City-road.

From 1828 to 1832 Dr. Herbert Davies was educated at North End School, Hampstead, where he became head boy, and used to relate that on occasion of the distribution of prizes he was sent to London to bring up Campbell the poet, who was to preside, and who it was feared might forget his engagement. In 1836 he entered as a student at the London Hospital and matriculated at Caius College, Cambridge, in October, 1838. In the Lent term of his second year he migrated to Queen's College in the same university, and was a scholar and prizeman at both colleges. In January, 1842, he took the degree of B.A. as twenty-eighth wrangler, the year in which Professor Cayley was senior wrangler, and in which the late Charles Kingsley, the present Bishop of Ely, and several other distinguished men took their degrees. His private tutor was Professor Potter, Professor of Natural Philosophy and Astronomy in University College, London. Dr. Davies, in the opinion of his contemporaries, would have stood much higher in the mathematical tripos had he not been disabled for more than a year preceding the examination by an affection of his eyes, which prevented his working by candlelight. In January, 1843, he took his degree of M.B., and in 1844 was elected to the Edwards' Fellowship at Queen's College, and in 1847 to a Foundation Scholarship in the same college. In July, 1848, he took his degree of M.D. After taking his B.A. degree he spent some time in the

schools of Paris and Vienna, and on returning to London became Assistant Physician to the London Hospital in 1845, and subsequently full Physician and Consulting Physician on his retirement in 1874. In his own university Dr. Davies had held the offices of Examiner for the M.B. degree and Assessor to the Regius Professor of Physic, and in the College of Physicians of London, of which he became a Fellow in 1850, he had filled the offices of Examiner and Censor.

From the time of his settling in London Dr. Davies had been actively engaged in professional duties both as a teacher and practitioner. He early showed the advantages accruing from a liberal education and a well-trained mind, and, whether as an observer, teacher, or practitioner, acquired and maintained the reputation of a sound and able physician. Throughout his whole career his character was stamped by an open straightforwardness, high integrity, and Christian faith and principle that could not fail to secure the respect and esteem of his colleagues and all who were brought into contact with him; whilst his genial disposition, urbanity, kindness of heart, and unselfish conduct endeared him to those who had the privilege of knowing him in closer social intercourse. The services that he rendered to the London Hospital, not merely as a physician, but in the active management of both hospital and school, more especially during the cholera epidemic of 1866, were such that he received from the governors a special vote of thanks, accompanied by the presentation of a piece of plate. As a consultant and as medical adviser in the various public appointments that he held, few men could be more worthy of the confidence and regard in which he was held, whether in his professional capacity or as a private gentleman.

The principal of Dr. Davies' professional writings are—(1) "A Course of Lectures on Diseases of the Heart and Lungs," a work which at the time of its publication was an excellent *résumé* of the subject as then known, and shows a critical acquaintance with the diagnostic and pathological views of the German school; (2) "On the Treatment of Acute Rheumatism by free Blistering," a practice which he showed not only afforded great relief to the attendant pain, but also reduced the temperature and shortened the duration of the disease; (3) a paper read before the Royal Society and published in their Proceedings, "On the Law regulating the Relative Magnitude of the Areas of the four Orifices of the Heart," in which his mathematical knowledge was, with great ability, brought to bear in support of his views; this was followed by a second paper on the same subject, entitled "On the Form and Areas of the Heart's Orifices."

Dr. Davies has left a widow, three sons, and four daughters—two of the sons having adopted their father's profession, to uphold, it may confidently be hoped, a name that will have an honourable place in the records of medicine. The funeral took place on Friday last at the Hampstead Cemetery, Finchley-road.

THOMAS BUCHANAN WASHBOURN, M.D., F.R.C.P. LOND.

DR. WASHBOURN, who died on December 11th, 1884, at his residence, Ashmeade House, Gloucester, of Bright's disease and pneumonia, at the early age of fifty-five, was educated at the Gloucester Cathedral School, and commenced his professional studies at the Gloucester Infirmary as a pupil of the late Mr. Thomas Cox Buchanan, from whence he went to Guy's Hospital, where his career was marked with great success. He matriculated at the University of London, and in 1850, at the First M.B. examination, he obtained a gold medal for Chemistry, and honours in Anatomy and Physiology. In 1853 he graduated M.B., and obtained a gold medal for Physiology and Comparative Anatomy, and the scholarship and gold medal for medicine. He became a Member of the College of Physicians of London and graduated M.D. Lond. in 1854, and subsequently, in 1865, he was elected a Fellow of the College of Physicians.

Unfortunately, Dr. Washbourn's health prevented him from commencing practice in London as he had intended to do, and he was obliged to refuse the offer of an assistant-physicianship at his Alma Mater. A long sea-voyage somewhat improved his health, and shortly after his return to England he settled down in Gloucester, where he practised until his death.

Amongst the appointments held by Dr. Washbourn were the posts of Senior Physician to the General Infirmary at Gloucester and the Gloucestershire Eye Institution, Consulting Physician to St. Lucy's Home of Charity and the Children's Hospital, Consulting Physician to the Gloucester Dispensary, and Consulting Physician to the Lydney Hospital. Dr. Washbourn was a J.P., a Trustee of the Gloucester Charities, and in 1859 filled the office of Alderman. Whilst occupying this latter position Dr. Washbourn devoted himself to sanitary matters, and it was largely through his works and influence that the new system of sewers and the public park were obtained for Gloucester He was the author of "Reports of the Sanitary Condition of Gloucester, 1851 to 1868," and other papers and pamphlets on allied subjects. He was elected an honorary member of the Metropolitan Association of Medical Officers of Health, and Fellow of the Statistical Society; and was also a member of the Anthropological Institute, and a Fellow of the Royal Geographical Society.

THE SERVICES.

Deputy Surgeon-General Alfred M. Tippetts, of the Army Medical Staff, who was mentioned in despatches for his services in the last Afghan War, has been appointed on the Staff of Major General F. Willis, Commanding the Northern District, as Principal Medical Officer. Mr. W. P. Colman, of Brighton, has been appointed Civil Acting Surgeon to the 4th Dragoon Guards, vice Surgeon-Major Ffolliett, removed to Aldershot.

WAR OFFICE.—Deputy Surgeon-General Francis Holton, M.B., half-pay, has been granted retired pay, with honorary rank of Surgeon-General. Deputy Surgeon-General John O'Nial, C.B., to have the local rank of Surgeon-General whilst employed as Principal Medical Officer with the Forces on the Nile.

INDIA OFFICE.—The Queen has approved of the retirement from the Service of the undermentioned officers of Her Majesty's Indian Military Forces:—Deputy Surgeon-General Colvin Smith, M.D., C.B., of the Madras Army; Surgeon-Major Thomas Gray Skardon, of the Bengal Army; Surgeon-Major Horatio David Steel Compigne, M.D., of the Bengal Army; Surgeon-Major Robert Pringle, M.D., of the Bengal Army.

The undermentioned officer is granted a step of honorary rank on retirement:—Deputy Surgeon-General James Alexander Caldwell Hutchinson, M.D., of the Bengal Army, to be Surgeon-General.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentlemen passed the Second Examination for the licence (Anatomy and Physiology) on the 12th inst.:—

Noble, W. H. Francis.	Treharne, Edward
Simson, Francis Taylor.	White, Lancelot Percy.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 8th inst.:—

Ashley, Sydney Dukes, London Hospital.
Copeman, Sydney Arthur Monckton, St. Thomas's Hospital.
Fox, John Alfred, Guy's Hospital.
Fryer, Charles, Guy's Hospital.
Maudsley, Henry Sydney, St. Mary's Hospital.
Melson, George Hyde, Queen's College, Birmingham.
Pitcball, John Maynard, Westminster Hospital.
Thirkill, Henry, Leeds School of Medicine.
Watts, Alfred Thomas Guy, Cambridge University.

The following gentleman also on the same day passed the Primary Professional Examination:—

Gerald Cree, Middlesex Hospital.

CANTOR LECTURES.—The next lecture on "Climate," to be given by Dr. Poore at the Society of Arts on Monday next at 8 P.M., will deal with the "Floating Matter in the Air and the study of Bacteriology as applied to Climate."

HERBERT MILITARY HOSPITAL.—On the 8th inst. a fire broke out in this hospital, which caused considerable damage to the building, but fortunately was not attended with loss of life.

A HOUSE has recently been taken in Southend by the Christian Medical Mission. A trained nurse is to be engaged, and the committee hope, when a suitable site has been provided and sufficient funds are available, to undertake the erection of a cottage hospital.

ST. JOHN AMBULANCE ASSOCIATION.—Advices by last mail report that very encouraging progress is being made at the Victoria Centre of the St. John Ambulance Association; and that the Duke of Manchester and the Governor, Sir Henry Loch, as representing the Chapter of the Order of St. John, had consented to attend a public meeting called to give further impetus to the movement.

QUARANTINE AT MADEIRA.—A telegram has been received by the Union Steamship Company from their agents at Madeira, dated the 10th inst., intimating that the quarantine restrictions which have been in force at that island for some months past have been abolished. Passengers will therefore now be permitted to land as usual without spending some days in the lazaretto.

UNIVERSITY COLLEGE HOSPITAL.—On the 9th inst. a concert in aid of this institution, organised by servants of the London and North-Western Railway Company, took place in the meeting-room at Euston Station. The secretary of the hospital stated that the servants of that railway company had alone during the last seven years given £400 to the hospital. The People's Contribution Fund, since its establishment in 1878, had raised £3000 for the hospital. The total in-patients in 1884 numbered 3000 and the out-patients 30,000. The concert was most successful, and the proceeds, without any deduction whatever, were handed over to the institution on behalf of which it was held.

A NATIONAL HEALTH INSTITUTE.—A memorial has been forwarded to the Executive Council of the late International Health Exhibition by the Committee of the Manchester and Salford Sanitary Association, suggesting that out of the surplus funds of the late Exhibition an Institute of Health be endowed, such institute to receive the books sent to the late Exhibition as a nucleus of a National Health Library, to carry on the work already commenced in the Laboratory of Biological Research, and to endeavour to co-operate with the Committee of the Parkes Museum of Hygiene and with other sanitary associations for the promotion of the study of sanitary science.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting held on Thursday, January 8th, the following list of officers, Council, and Microscopical Committee was adopted. Those marked * did not hold the same office last year:—President: Dr. Robert Gee. Vice-Presidents: Dr. J. Wallace, Dr. J. H. Wilson, *Dr. J. Birkbeck Nevins, *Mr. F. T. Paul. Hon. Treasurer: Dr. James Barr. Hon. General Secretary: Dr. William Alexander. Hon. Secretary of Ordinary Meetings: Dr. William Williams. Hon. Librarian: Dr. J. E. Burton. Council: Dr. J. Grimes, Dr. F. Imlach, Dr. R. F. Owen, Mr. R. N. Pughe, Mr. T. Shadford Walker, Dr. T. F. Young, *Dr. F. J. Bailey, *Dr. J. Cameron, *Mr. Reginald Harrison, *Dr. H. Harvey, *Mr. H. O. Thomas, *Mr. R. Williams. Microscopical Committee: Dr. W. Alexander, Dr. P. M. Braidwood, Mr. H. Briggs, *Dr. Hyla Greves, *Mr. G. Hamilton, Dr. J. S. Hicks, *Dr. J. R. Logan, Mr. Rushton Parker, Mr. F. T. Paul, and Dr. W. Williams.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

ANDREWS, RICHARD J., M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Heavitree District of the St. Thomas Union, Devon, vice Williams.

BARLOW, THOMAS, M.D., F.R.C.P.Lond., has been appointed Physician to the London Fever Hospital, vice Mahomed, deceased.

CLERK, JOHN, M.B., C.M.Glas., has been appointed Resident Physician and Superintendent of Knightswood Hospital, Maryhill, Glasgow.

DYER, BERNARD, F.C.S., F.I.C., has been appointed Public Analyst for Southend.

GOULDEN, FRANK SAMUEL, L.R.C.P.Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Guest Hospital, Dudley.

GRAVES, CHARLES H. P. D., M.D., M.Ch.R.U.I., L.R.C.S.I., has been appointed Medical Officer for the Cookstown Dispensary District, vice H. Graves.

GULLIVER, GEORGE, M.B., M.R.C.P.Lond., M.R.C.S., has been appointed Senior Assistant-Physician to the London Fever Hospital, vice Barlow.

HARVEY, JAMES, L.R.C.P.Lond., M.R.C.S., has been appointed House-Surgeon and Secretary to the Scarborough Hospital and Dispensary, vice Young, resigned.

HAW, WALTER H., B.A., M.R.C.S., L.S.A., has been appointed House Physician to Charing-cross Hospital.

HAYDON, WILLIAM RUDALL, M.D., C.M.Glas., has been appointed Medical Officer for the Cruwys Morchard District of the Tiverton Union, vice E. Haydon.

HEATH, JAMES, M.B., C.M.Ed., has been appointed Senior House-Surgeon to the Torbay Hospital and Dispensary, vice Thistle, resigned.

JOLLIFFE, A. R., M.R.C.S., L.S.A., has been appointed House-Surgeon to Charing-cross Hospital.

KIDDLE, Mr. W., has been appointed House-Surgeon to Sir Patrick Dun's Hospital, Dublin, vice G. D. Cowen, M.B., B.Ch., T.C.Dub., L.M.K.Q.C.P.I., resigned.

MAGUIRE, ROBERT, M.D.Lond., M.R.C.P. (late Pathologist to the Manchester Royal Infirmary, and Assistant Lecturer on Pathology in the Owens College), has been appointed Physician to Out-patients at St. Mary's Hospital, Paddington.

MARRACK, WILLIAM, M.R.C.S., L.S.A.Lond., has been reappointed Medical Officer for the Bradninch District of the Tiverton Union.

MARRIOTT, JOHN, M.R.C.S., L.R.C.P., has been appointed House-Surgeon to Charing-cross Hospital.

NORRIS, E. STACY, M.B.Cantab., M.R.C.S., has been appointed Medical Officer for the First District of the Whidsor Union.

PHILLIPS, SIDNEY P., M.D., M.R.C.P.Lond., has been appointed Junior Assistant-Physician to the London Fever Hospital, vice Gulliver.

SOMERVILLE, JOHN FRENCH, L.F.P.S.Glas., L.A.H.Dub., has been appointed Medical Officer for the Fourth District of the Hollingbourn Union.

THOMAS, B. WILFRED, M.R.C.S., L.R.C.P., has been appointed House Physician to Charing-cross Hospital.

TROTTER, WALTER O., L.R.C.P.Ed., M.R.C.S., has been appointed Medical Officer for the Pocklington No. 1 District of the Pocklington Union, vice Boissier.

TYRRELL, W. GUY BEAUCHAMP, L.R.C.P.Lond., M.R.C.S., has been appointed Junior House-Surgeon to the Torbay Hospital and Dispensary, vice Heath.

VANY, ALFRED MASON, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the Eastern District of the Durham Union, vice Robson.

WALLINGTON, W. T., L.S.A., has been appointed Resident Obstetrical Officer to Charing-cross Hospital.

WHITWORTH, WILLIAM, M.R.C.S., L.S.A.Lond., has been appointed Medical Officer for the St. Agnes District of the Truro Union, vice Whiteley.

WILLIAMS, WILLIAM MICHAEL, M.B., C.M.Glas., has been appointed Medical Officer and Public Vaccinator for the Pentrefoelas District of the Llanrwst Union, vice Evans, resigned.

WINTER, W. H. T., L.K.Q.C.P.I., has been appointed Medical Officer for the No. 2 District of the Wolverhampton Union.

Births, Marriages, and Deaths.

BIRTHS.

CROWE.—On the 8th inst., at Worcester, the wife of G. Wyndham Crowe, M.D., of a son.

HUTTON.—On the 9th inst., at West-green-road, Tottenham, the wife of Edwin R. Hutton, L.R.C.P.Lond., of a daughter.

JOHNSON.—On the 11th inst., at Kingsland-crescent, N.B., the wife of J. Bovell Johnson, M.D., &c., of a son.

MARTIN.—On the 9th inst., at Chapel-street, Park-lane, the wife of John Henry Martin, M.D., of Cambridge House, Portsmouth, of a son.

MARRIAGES.

DAVY—TUCKER.—On the 6th inst., at Chard, Henry Davy, M.D.Lond., of Exeter, to Beatrice Mary, eldest daughter of Walter J. Tucker, Esq., of Chard.

STANDEN—O'LEARY.—On the 6th inst., at St. Anne's, Moseley, by the Rev. Canon Wilkinson, D.D., assisted by the Rev. J. Leverett, M.A., Vicar, Peter Standen, M.B., C.M., of Stanton-hill, Mansfield, to Frances Jane, elder daughter of John Gibson O'Leary, of the Ferns, Moseley.

DEATHS.

BAXTER.—On the 14th inst., at Weymouth-street, Portland-place, W., Evan Buchanan Baxter, M.D., Professor of Materia Medica, King's College, London.

LANCHESTER.—On the 8th inst., at his residence, Park House, Croydon, of congestion of the lungs, Henry Thos. Lanchester, M.D., F.R.C.S., aged 46.

MANN.—On the 11th inst., at Warltersville-road, Hornsey-rise, N., John Mann, M.R.C.S., L.S.A.L., aged 82.

NUTTALL.—On the 26th ult., at Ayr, N.B., George Robert Nuttall, M.R.C.S., late Bombay Medical Service, aged 63.

ROWLATT.—On the 2nd ult., on board the s.s. *Melbourne*, Dr. William Rowlatt, of Paris, aged 31.

N.B.—*A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET OFFICE, January 15th, 1885.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Jan. 9	29·77	S.	33	33	...	46	30	·04	Foggy
,, 10	29·43	S.W.	46	45	...	51	31	·12	Raining
,, 11	28·99	W.	42	39	...	46	37	·21	Cloudy
,, 12	29·61	N.W.	32	...	...	39	30	·13	Cloudy
,, 13	29·61	N.	34	33	...	36	31	·03	Snowing
,, 14	29·74	N.E.	32	...	...	38	30	...	Overcast
,, 15	29·95	E.	38	37	...	40	32	·09	Raining

Medical Diary for the ensuing Week.

Monday, January 19.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
SOCIETY FOR THE ENCOURAGEMENT OF ARTS, MANUFACTURES, AND COMMERCE.—8 P.M. Dr. G. V. Poore: The Effects of Soil, Drainage, and Vegetation upon Climate (Cantor Lecture).
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. T. Lauder Brunton: Digestive Disorders, their Consequences and Treatment (Lettsomian Lecture).

Tuesday, January 20.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 P.M., and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M., and on Fridays at 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Moseley: Colonial Animals.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. President's Address.—Mr. Pepper: Malignant Disease of the Spermatic Cord.—Dr. Norman Moore: Congenital Disease of the Heart; Disease of Sacro-Iliac Joint (card); Drawing of a Renal Tumour consisting of Cholestearine (card); Rupture of the Heart (card); Perforated Aortic Valve (card).—Dr. Charlewood Turner: Horse-shoe Kidney, Sarcoma of both Adrenals (card).—Mr. Davies-Colley: Synostosis of Dorsal Spines.—Dr. Samuel West: Cases of Mediastinal Tumour.—Mr. John Poland: Suppurating Bronchial Gland opening into Œsophagus and Left Bronchus (card).—Mr. Shield: Rectal Polypus (card).

Wednesday, January 21.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour. Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
HOSPITALS ASSOCIATION.—8 P.M. Mr. C. J. Radley: The Relation of the Provident Dispensary to the Hospital.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Special Meeting.—Adjourned Discussion on Dr. Percy Kidd's paper on the Distribution of the Tubercle Bacilli in the Lesions of Phthisis.

Thursday, January 22.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ROYAL INSTITUTION.—3 P.M. Prof. Dewar: The New Chemistry.

Friday, January 23.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—9 P.M. Prof. Moseley: Fauna of the Sea-shores.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Papers by Dr. W. B. Carpenter and Mr. F. Parsons.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Althaus: A Case of Hemianæsthesia from Congenital Brain Disease.—Mr. Treves: A Case of Scrofulous Gland Disease with Phthisis.—Mr. C. J. Symonds: A Case of Stricture of the Œsophagus, illustrating a new method of employing the Œsophageal Catheter.—Dr. Hale White: A Case of Myxœdema, with a Post-mortem Examination.

Saturday, January 24.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—3 P.M. Dr. Waldstein: Greek Sculpture.

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

"THE UXBRIDGE TRAGEDY."

IN consequence of the difficulty we have experienced in obtaining a copy of the full depositions relating to the above case, we are reluctantly compelled to postpone the insertion of Mr. Bowlby's letter, dated Jan. 6th, with comments thereon, until next week.

W. B.—We would suggest that an application be made to the deputy coroner who held the inquiry. Should that be unavailing, the Home Secretary might be communicated with.

Mr. J. W. Watson's complaint should be addressed to the Editor of the "Directory."

MEDICAL OFFICERS OF HEALTH AND PRIVATE PRACTICE.

To the Editor of THE LANCET.

SIR,—As the leading authority on professional matters, does it come within your province to give an answer to the following inquiries? 1. Do you consider the medical officer of health for a town containing 50,000 inhabitants should devote his whole time to his public duties, or be allowed to continue his private practice as well? 2. Would his connexion with a hospital for contagious and infectious disease tell for or against his holding such an appointment.—I am, Sir, yours truly,

Jan. 10th, 1885. H. D. P.

*** 1. The question, being to a great extent hypothetical, is not easy to answer. The nature of the answer would also depend upon the competency of the individual. Speaking generally, we would prefer to see medical officers of health independent of private practice; but it is rare to find that a town of 50,000 inhabitants offers a salary sufficient to command the entire services of a really competent officer. Under these circumstances we would rather that a competent officer should be allowed to practise privately than that a less efficient officer should, at an inadequate salary, give his whole time to the duties of officer of health.—2. Connexion with an infectious disease hospital is, as a rule, an advantage to an officer of health and to the authority he serves.—ED. L.

Medico.—1. Perhaps the Lettsomian Lectures now in course of delivery will, when concluded, answer our correspondent's purpose.—2. Application had better be made to the Director-General.

Dr. Purcell.—Yes.

"THE MEDICAL DIRECTORY FOR 1885 AND THE NORTH-WEST LONDON HOSPITAL."

To the Editor of THE LANCET.

SIR,—Will you kindly allow me to state, in reply to the letter of your correspondent, "A Governor of the North-West London Hospital," that the appearance of the names of Sir Andrew Clark and Mr. Christopher Heath as attached to the consulting staff of this hospital was *not* the result of "wrongful information." Both these gentlemen gave their consent when asked a few weeks ago to resume their connexion with the hospital. In deference, however, to the united request of the former staff, they subsequently withdrew their consent, *but not until after the Medical Directory was in the press.* I had already explained this to Sir Andrew Clark and Mr. Christopher Heath. Enclosed is a copy of Sir Andrew Clark's letter to me in reply.

Your correspondent would have shown better taste had he asked for an explanation before rushing into print, and unjustly stigmatising the managers of a public charity.—I am, Sir, yours obediently,

ALFRED CRASER, Secretary.

North-West London Hospital, Jan. 16th, 1885.

"16, Cavendish-square, W., Dec. 31st, 1884.

"DEAR SIR,—I beg to acknowledge with thanks the receipt of your courteous note of explanation, which is perfectly satisfactory, and I am

"Faithfully yours,

"ANDREW CLARK, M.D."

A REMEDY FOR THE PHYLLOXERA.

As the result of a number of experiments which have been conducted by Professor Baur of San Francisco, it is stated that a sure cure for phylloxera has been found in quicksilver. The remedy is, according to a report recently issued by Professor Baur, half an ounce of quicksilver, thoroughly mixed with an equal weight of clay, in the soil of the hole in which the vine is planted. The suggestion as to the use of mercury came from the fact that a small globule of that metal in a case of mounted butterflies will protect them against the depredations of beetles, and also to the fact that mercurial treatment is destructive to insects. The report expresses the belief that a dose of the mixture will protect a vine for at least twenty years. The efficiency of the quicksilver remedy has, it is stated, been determined by many experiments which have already been reported upon, and other trials are also being made.

Mr. Lewis Evans.—The lecture originally appeared in the New York *Medical News* of Nov. 22nd, 1884, and was subsequently reprinted by Dr. Bartholow for private distribution.

Mr. H. R. Ker.—The matter shall have consideration in our next.

THE ENGLISH CONJOINT BOARD.

To the Editor of THE LANCET.

SIR,—I think the enclosed answers which I have obtained from the Secretary and Assistant Secretary of the Royal College of Surgeons in reply to the inquiry whether, having passed the Primary M.R.C.S. and intending to present myself at the Intermediate (M.B.) London next year, I should be able to avail myself of the advantages of the final examination under the conjoint scheme, will interest many beside myself, and therefore trust you will be able to give them a place in your journal.

I am, Sir, your obedient servant,
Jan. 12th, 1885. C. L.

"Royal College of Surgeons of England,
"Lincoln's-inn-fields, W.C., Jan. 3rd, 1885.

"SIR,—With reference to your inquiry of the 12th ultimo I have now to reply to you as follows—viz.: 1. That so far as the subjects of the Intermediate Examination of the University of London comprise the subjects of the first examination under the Examining Board in England by the Royal Colleges of Physicians and Surgeons, so far will you be exempt from passing such first examination. 2. That, as it would appear that Pharmacy is not included in the Intermediate Examination, you will have to pass in that subject to complete what will be required of you under the combined examination before admission to the final examination of the Board. 3. And that you will learn from the enclosed Regulation what are the other conditions applicable to your case. "I am, Sir, your obedient servant,

"EDWARD TRIMMER, Secretary."

"EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.

"Any candidate for the Licence of the Royal College of Physicians and the Membership of the Royal College of Surgeons who shall have commenced his professional study before Oct. 1st, 1884, shall, on production of the certificates required by both Colleges when he commenced his professional study, and on payment of the required fees, be admissible to either or all of the examinations of the Examining Board. Any candidate who shall have passed before the 1st October, 1884, at either of the two Colleges, the first or second examination, or the first and second examinations, will be exempt from the equivalent examinations of the Examining Board."

"Royal College of Surgeons of England,
"Lincoln's-inn-fields, W.C., Jan. 10th, 1885.

"SIR,—In reply to your further letter of the 5th inst. I have to acquaint you that you will be required to pay the fee of ten guineas required for the first examination when you present yourself for examination in Pharmacy. I have to add that had you passed in that subject as well as in other subjects elsewhere, you would nevertheless have been required to pay the same fee.

"I am, Sir, your obedient servant,
"FRED. G. HALLETT, Assistant-Secretary."

A MIDWIFERY COINCIDENCE.

To the Editor of THE LANCET.

SIR,—The following may be interesting to some members of the profession:—In November last a woman called on me, and asked me if I would attend her two daughters in their confinements, her elder daughter expecting her second child and the younger being a primipara. She also informed me that as they lived at different parts of the town, she could not be with both at the same time to nurse them, and had decided to have them at her own house until they were safely delivered and ready to return home. I asked her when she expected them to be confined. She replied, "The first week in December." I said, "What, both in the same week?" Her answer was, "Yes, the same week and the same day;" and I added, "Perhaps the same hour." Her response was in the affirmative. On Dec. 3rd I was called to the house; I went upstairs and delivered the younger daughter of her first child. All being satisfactory, I descended to go home, when I was met by the elder daughter, who informed me that she felt unwell, and asked me to look at her. I reascended with her, and in the course of the following half-hour safely delivered her of her second child, and thus fulfilled their mother's expectations. Both mothers did well, and in due course returned to their respective homes.—Yours very truly,

Hillsbro', Sheffield, Jan. 12th, 1885. WILLIAM JOHN SUMNER.

A LADY OVARIOTOMIST IN CHINA.

WE take the subjoined clipping from the *North China Daily News* of Nov. 27th, 1884:—

"The formidable operation of ovariotomy was performed in Shanghai on the 25th ult., for the first time successfully in North China. The operator was Miss Elizabeth Reifsnyder, M.D., of the American Woman's Union Mission. Dr. Reifsnyder has in course of construction a hospital for native women, designed, with all the most recent improvements, by Mr. F. M. Grattan of Shanghai. For the case referred to she was obliged, as her own hospital has not yet been opened, to seek the good offices of the doctors attached to St. Luke's Hospital, Hongkew. A suitable room was specially prepared, and the result has amply rewarded the trouble taken. A tumour weighing more than a fourth part of the patient's entire weight (33 lb. out of a total weight of 114 lb.) was removed, and the woman is now ready to leave the hospital, perfectly recovered. The patient in this instance came from the interior of the An-huei province, a distance of more than 500 miles, attracted by reports of foreign surgical skill, and it is not too much to hope that this remarkable success will help to spread the renown of foreigners, and will bring within the reach of foreign aid a class of people and a class of cases which have hitherto held aloof from the hospitals in which advice and assistance can be obtained only from men."

We understand that ovariotomy has been performed some half-dozen times at mission hospitals in South China. The results have been anything but encouraging; a fact not to be wondered at when the broken-down condition in which patients with chronic diseases are always brought to foreign hospitals in China is remembered.

MEDICAL EXAMINATIONS AT OXFORD.

To the Editor of THE LANCET.

SIR,—Kindly permit me, through the medium of your columns, to draw attention to the above subject, in the interest of present and future Oxford men. As many of your readers are aware, the opportunities for entering the medical profession at Oxford are conspicuous by their absence; and the path is made as thorny as possible by the restrictions put upon us by that worthy, if somewhat privileged body, "The Board of Medical Studies." The particular grievance to which I now wish to draw attention is the length of time that is allowed to intervene between two examinations. At Cambridge the examinations are held at intervals of six months or so, so that if a man has the misfortune to be "ploughed" he can go up again at the end of that time should he feel disposed. At Oxford, on the other hand, examinations are held but once in the year, and an unsuccessful candidate thus has to wait twelve months before he is allowed again to trouble the examiners. This long delay I maintain is both unnecessary and a hardship, more especially with regard to the first examination, which mainly consists of anatomy and physiology. At the "Primary" College of Surgeons a man to be "referred to his anatomical and physiological studies" for six months is an exception, and he is rightly considered to know very little about his work; the ordinary reference is for three months only. Is it not, then, a great disadvantage to the Oxford man—who is, I fancy, as a rule, quite equal in ability to the College of Surgeons candidate—that such a long time should elapse before he can try his hand again at his 1st M.B., and especially in these days when medicine and surgery require such a great share of the time at his disposal. Trusting that this letter will attract the attention of some of the responsible authorities at Oxford,

I remain, Sir, yours truly,
Jan. 13th, 1885. B. A.

RAMSGATE CORPORATION BILL.

To the Editor of THE LANCET.

SIR,—I would not trespass upon your space had not the subjoined extract from the proposed Ramsgate Municipal, or rather Corporation, Bill afforded amongst us considerable amusement, as it may, I trust, amongst your readers.

The "Council" propose to bring forward this particular Bill before Parliament next session. I will not enter into the merits of the same, but simply quote the following extract (Part I., Section 5):—"'Infectious disease' means and includes small-pox, cholera, typhus, typhoid, scarlet, and relapsing fever, and diphtheria, and such other diseases as the Corporation, under the provisions and for the purposes of this Act, *may from time to time declare to be infectious.*"

I should fancy the medical officer of health might have something to say upon the subject. Imagine, Mr. Editor, for one instant our borough magnates sitting in solemn conclave, each with a medical encyclopædia in hand, working out the question of tweedledum and tweedledee—bacteria, bacillus, and all the germs. I think that whoever drew up the draft of the proposed Bill might, at least, have had the courtesy towards the town's most excellent medical officer, and to the profession generally, to have added, "as we are by our medical officer or officers of health advised." I suppose the Corporation (last year first incorporated) were so taken up and entirely engrossed with their own magnitude—municipal improvements, "drainage schemes"—that in drafting the Bill now quoted from they forgot that there is a certain quantum of respect due to the medical profession. In these degenerate days it is very wonderful how forgetful are these corporations, local boards, &c.

I am, Sir, yours truly,
CHARLES CHITTENDEN,
Ramsgate, Kent, Jan. 10th, 1885. Late Surgeon R.N.

COLOUR BLINDNESS IN GERMANY.

Up to April 1st, 1883, 139,452 railway *employés* were examined in Germany with reference to colour blindness. It was found that of these 998 had no idea of colour. Of 115,154 engaged in the general work of the service, it was ascertained that 46 were completely, and 273 partially, insensible to differences of colour. Among 13,616 engineers one only was completely, but 27 others partially, in the same case.

Mica.—Professor Liveing, Cambridge.

Mr. D. Jones must apply to the deans of the respective schools.

THE PHYSIOLOGY OF THE FEET.

To the Editor of THE LANCET.

SIR,—There seems to be a difference of opinion among experts as to how people walk normally—that is, with heelless shoes, or when barefooted. During a recent journey in the mountains I observed particularly scores of natives, plain-men, and hill-men of various nations. Invariably the heel first touches the ground, but there can be little or no shock on impact, and the sole of the foot is planted immediately afterwards; and as few natives step out straight-kneed, there is a more gliding motion than in Europeans. I myself often use heelless sandals; but walking straight-kneed I notice, especially at the beginning of a march, the shocks sent by each step up the spine, for which reason, when going down hill, I plant the whole foot flat, or even the toes rather first. This affords more security against slipping. Natives walking with slightly bent knees avoid these shocks, and as most of them carry loads this is important. In going down hill they also plant the foot nearly, but seldom quite, flat. I do not include in these statements those whose worn out or very loose grass shoes compel them to drag their toes along the ground.

I am, Sir, yours truly,

ARTHUR NEVE, F.R.C.S.Ed., &c.

Kashmir, N. India, Nov. 29th, 1884.

MACARONI INFECTION.

To the Editor of THE LANCET.

SIR,—It is doubtful whether we ought to eat macaroni this year as usual. When I was at Naples some time ago it seemed impossible ever to touch it again; but I was assured that all sent to England was made in clean manufactories, and was not that which we saw drying by the roadside all along the way to Pompeii. Still, one feels that with cholera raging both at Naples and Genoa during the past summer everything must have been contaminated; though on inquiry at one of the principal Italian warehouses I find that no special precaution has been taken in buying their stock. A guarantee that such a useful and wholesome article of food need not be excluded from our bill of fare would be acceptable.

I am, Sir, yours truly,

Bournemouth, Jan. 13th, 1885. W.

An Anxious Father should consult his medical attendant. We do not give medical advice.

Mr. E. Y. Yeates.—Not received.

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LETTERS, *each with enclosure*, are also acknowledged from—Dr. White, Hackney; Mr. Williams, Brixton; Mr. Bigg, London; Dr. Leckie, Pontypridd; Messrs. Watters and Son; Mr. Key, Pontypridd; Dr. Wallace, Glasgow; Mr. Utting, Liverpool; Dr. Standen, Mansfield; Miss Hartley, Worcester; Messrs. Roberts and Co., Southgate; Mr. Barff, Blackheath; Miss Wardell, Stanmore; Mr. Keeting, Manchester; Mr. Gardiner, London; Dr. Parry, Bridgend; Mr. Heap, Swanage; Mr. Rogers, Truro; Mrs. Lay, Northampton; Mr. Carde, Bristol; Dr. Coombes, Castle Carey; Mr. Castle, Worksop; Mr. Rutt, Turnham-green Mr. Scunthorpe; Dr. Glover, Derby; Mr. Hodge, Middleton; Dr. Shirtliff, Kingston-on-Thames; Miss Johnstone, Waterloo; Mr. Hemming, Pontypool; Dr. Sutherland, Castletown; Mr. Shaw, Manchester; Dr. Duffus, Macclesfield; Mr. Gordon, Liverpool; Dr. Lattey, Southam; Mrs. Portman; Mr. Grigg, London; Dr. Home, Sandwich; Dr. Armstrong, South Shields; Mr. England, Winchester; Mr. Maclaren, Stiney; Messrs. Burgoyne and Co., London; Mr. Speck, Morristown, U.S.A.; Mr. Evans, Bodrinog; Mr. Kinder, Leicester; Mr. Gould, Tenbury; Miss Beachcroft, Bedford; Mr. Boyveau, Paris; Mr. Clark, Southampton; Dr. Manche Malta; Mr. Mann, Bradford; Mr. Berry, Loughborough; Mr. C. P. White; Mrs. Hartley, Worcester; Mr. Sprake, Brighton; Mrs. Pratt, Halesowen; Mrs. Maynard, Hastings; Mr. Baker, Hereford; Mr. Jesse, Henbury; Mrs. Rawlins, Westgate-on-Sea; Mr. Grime, Blackburn; Dr. Caldwell, Shotts; Dr. Adye, Bradford-on-Avon; Mr. Solom, Durham; C. H. R., Canterbury; L.R.C.P., Manchester; Medicus, Liverpool; P. S., Exeter; Medicus, Regent's-park; M.B., Southsea; Max; Secretary, Bootle; M.D., Chester; Medicus, Dorchester; R.; H. J., Holloway; Forceps, Derby; Medicus; Samoa; Pathologist; F.S.A., Wye; M.D.; Alpha, Notting-hill; Verus; B.; S. C., Duncanfield; E. F., Clifton; Rus; Medicus, Southport; Q.Q. Practitioner, Sudbury.

Essex County Chronicle, Temperance Chronicle, Manchester Examiner Leigh Chronicle, Debater, Chicago Daily News, Liverpool Courier, Social Salvation, &c., have been received.

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